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ABSTRACT

This investigation was an attempt to describe the psychological environment among and within select public high schools from the point of view of students, considering variables such as community context, student socioeconomic background, and academic program placement. In this study, 462 eleventh grade high school students from thirteen high schools in the New York City metropolitan area responded to the Stern Activities Index (AI) and the High School Characteristics Index (HSCI). The primary hypothesis stated there would be a significant relationship between student socioeconomic background characteristics and student personality structure as measured by the AI. To test this hypothesis, the mean score on the AI for factors and areas for three groups of students, classified by sex and socioeconomic background characteristics, were subjected to Person Product Moment Correlation. The AI and HSCI provided descriptive and evaluative information concerning the relationship of properties of educational systems to personality structures, academic placement, and socioeconomic background. (Author/BW)

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PERSONALITY STRUCTURE OF HIGH SCHOOL STUDENTS AND ENVIRONMENTAL CHARACTERISTICS OF PUBLIC SECONDARY SCHOOLS

June 1, 1972

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CHAPTER I

INTRODUCTION

Extensive research on the college level has yielded important descriptive and evaluative information concerning the relationship of properties of educational systems to the personality characteristics of their students.

These studies, conducted primarily by Stern and his associates,[1] aimed at a characterization of differences between college environments and the personality structures of their students. Colleges and their respective student bodies were found to differ substantially. Patterns of student-environment relationships showed significant development among and within colleges. These were referred to as _need-press_ interactions or institutional _cultures_.

In recent years attempts have been made to describe high school environments using an adaptation of Stern's instrumentation.[2] However, no major study has employed the theoretical considerations of _need-press_ relationships as they were intended; i.e., with conceptually matched measurement indexes for personality and environment. Considering the success of Stern's analysis of diverse college _cultures_, it appeared appropriate to use the _need-press_ construct in an attempt to describe the interaction of student _needs_ to environmental _press_ in public high schools. This research is directed to that objective.

---

[1] George G. Stern, _People in Context: Measuring Person-Environment Congruence in Education and Industry_ (New York: John Wiley and Sons, Inc., 1970).

[2] Lloyd K. Bishop, "Organizational Climate and the Student," _Individualizing Educational Systems_ (New York: Harper and Row, 1971), pp. 209-221; James V. Mitchell, Jr., "Dimensionality and Differences in the Environmental Press of High Schools," _American Educational Research Journal_, V (November, 1968), pp. 513-30.

The Problem

This investigation is an attempt to describe the psychological environment among and within select public high schools from the point of view of students, considering variables such as community context, student socioeconomic background, and academic program placement.

Psychological environment has been described as the complex of internal and external stimuli to which behavior constitutes a response.[1] If behavior is a function of the interaction of person and environment then it is important to determine if the organizational environments of public secondary schools vary with the characteristics of their students. As an exploratory study using the need-press construct postulated by Murray[2] and operationalized by Stern,[3] this project:

1. describes the environmental characteristics of select public high schools as perceived by students (press) and factor analyzes these data;
2. describes the personality structure of select high school students (needs), factor analyzes these data;
3. relates the characteristics of school environmental press among schools to personality needs of students to describe a particular organizational culture;
4. correlates the need and press factors with the socioeconomic characteristics of the school setting, student socioeconomic background and student academic program placement.

---

[1] Henry A. Murray, Explorations in Personality (New York: Oxford University Press, 1938), p. 37.

[2] Ibid.

[3] G. G. Stern, M. I. Stein, and B. S. Bloom, Methods in Personality Assessment (Glencoe, Illinois: The Free Press, 1956).

Background of the Problem

The national report, *Equality of Educational Opportunity*,[1] isolated two major variables in regard to educational outcomes: the school environment and the student's home environment. The study concluded that school input as measured by dollars spent per child for instruction, library and laboratory facilities, and for teachers salaries had little effect on achievement independent of a student's background and general social context.[2] The most important influence on school outcomes was attributed to the "educational proficiency" (i.e., social background and aspirations) possessed by the other children attending the same school. Coleman[3] concluded that students themselves were the most important educational input and that the achievement outcomes of schools will vary as the socioeconomic characteristics of the student population vary regardless of race or ethnicity.

Numerous studies support Coleman's findings.[4] Of all the variables studied, student socioeconomic background has been most frequently, clearly and consistently associated with educational performance. Community context has also been examined for its bearing on educational outcomes.[5] It is suggested by a number of investigators[6] that together these variables provide a substantial contribution to the normative patterns which influence student behaviors in school.

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[1] James S. Coleman, et. al., *Equality of Educational Opportunity* (Washington, D.C.: U. S. Department of Health, Education and Welfare, U. S. Government Printing Office, 1966).

[2] *Ibid.*, pp. 307-10.

[3] *Ibid.*, p. 302.

[4] David E. Lavin, *The Prediction of Academic Performance: A Theoretical Analysis and Review of Research* (New York: Russell Sage Foundation, 1965); Patricia C. Sexton, *Education and Income* (New York: Viking Press, 1961).

[5] Robert J. Havighurst, et. al., *Growing Up in River City* (New York: John Wiley & Sons, Inc., 1962); Natalie Rogoff Ramsey, "Local Social Structure and Educational Selection," in A. H. Halsey, et. al., eds., *Education, Economy and Society* (Glencoe, Ill.: The Free Press, 1961), pp. 242-43.

[6] James B. Conan, *Slums and Suburbs* (New York: McGraw-Hill Book Co., 1961); Gale Wood Rose, "Staff Values, Organizational Behavior, and Pupil Response in Schools" (Doctoral dissertation, University of Chicago, Chicago, 1966); Alan B. Wilson, "Residential Segregation of Social Classes and Aspirations of High School Boys." *American Sociological Review*. XXIV (December, 1959), pp. 836-45.

The origins-outcomes circularity often makes the role of the school appear static and non-viable. If schools are to design intervening measures to break what appears an inalterable link between socioenvironmental origins and educational outcomes, it is important to find ways to define, analyze, and influence the social behaviors of public school students. To reduce educational disparity between schools it becomes important to ascertain if certain school environmental characteristics are consistently associated with specific personality, demographic, and socioeconomic attributes of students.

Need for the Study

The establishment of a relationship between the personality structures of students and the environmental characteristics of public high schools has several significant implications. Using the need-press construct it would be possible to compare and contrast different high schools or high school programs in regard to those relationships which influence educational outcomes. Coleman,[1] Conant,[2] and Wise,[3] studying educational disparities among schools, focused on quantitative measures such as the degree of racial integration of the student body, availability of programs and facilities, and dollars expended per child. No study has emphasized the subtle differences in person-environment interaction which might contribute to the diverse atmospheres of schools. If schools are to design interventions for the purpose of improving academic excellence, a discussion of school differences cannot preclude an analysis of the ecological relationship between students' personality structure and the characteristics of the educational environment.

In sum, a study of the need-press interaction of a large, diverse sample of high schools can be useful for several educational purposes. One, it can identify factors contributing to the diverse atmospheres of schools; two, it can be useful in the design of interventive measures for academic excellence; and three, it can present a comprehensive picture of the high school as experienced by the students across program areas. This research will also add considerably to the emerging literature on person-environment relationships in formal organizations.

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[1] Coleman, et. al., op. cit., 1966.

[2] James B. Conant, The American High School Today (New York: McGraw-Hill Book Co., 1959).

[3] Arthur E. Wise, "The Constitution and Equal Educational Opportunity," in The Quality of Inequality: Urban and Suburban Public Schools, C. U. Daly, ed. (Chicago: The University of Chicago, Center of Policy Study, 1968).

Definition of Terms

A. Personality structure: a recurrent reaction pattern which describes a general course of behavior. It is derived from a classification of psychogenic *needs* influenced to a great extent by cultural forms.[1] In *this* study it is used interchangeably with *needs*. It is measured by the *Stern Activities Index*.

B. Organizational environment: descriptions of school activities which refer to curriculum, students, teachers, and administrators. It is derived from a taxonomy of *press* identified with public school life.[2] In this study it *is* used interchangeably with the terms environmental *press* and organizational climate. It is measured by the *High School Characteristics Index*.

C. Need-Press Construct: two comprehensive taxonomic classifications which represent both person and environment in common terms and comparable magnitudes. *Needs* represent the spontaneous behaviors of an individual; *press*, the characteristic behaviors manifested by aggregates of individuals within the context of an environment.

1. Needs: a psychological construct or intervening variable belonging to a category of dispositions. It is a state characterized by the tendency to actions of a certain kind. It manifests itself by leading the organism to search for or to avoid encountering or, when encountering, to attend and respond to certain kinds of *press*.[3]

2. Press: provides an external situational counterpart of the internalized personality *needs*. It may be inferred from self-estimates of behavior

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[1] Murray, *op. cit.*, 1938, pp. 123-124.

[2] Stern, *op. cit.*, 1970, p. 14.

[3] Murray, *op. cit.*, 1938, p. 124.

likely to be characteristic of others in a given situation. The concept of *press* includes conditions that represent impediments to *needs* as well as those likely to facilitate their expression.[1] These conditions are commonly referred to as the *climate* or atmosphere of an institution. Press *perceptions* can be individual (private) or shared (consensual).[2] The environmental *press* descriptions in this study are the shared responses of aggregates of students.

D. *School or Program Culture*: a significant relationship of *the consensual environmental* *press* and aggregate *needs* responses of students.[3] In this study it is represented by a joint factor structure extracted from *Activities Index* and *High School Characteristics Index* data.

E. *Socioeconomic background characteristics*:

of students: a classification of socioeconomic status (SES) as measured by parents' level of education and occupation.

of school: a classification of the social class milieu of the school as determined by a composite of the average real estate wealth per student and major occupational and educational status of students' parents in the district.

F. *Program placement*: student grouping in the academic hierarchy of a school as determined by homogeneous ability group placement in eleventh year English.

Theoretical Framework

The major assumption underlying this study suggests that social behavior in public secondary schools relates directly to, and may be analyzed and defined by, the interrelationships existing between characteristics of the school environment and personality characteristics of students. This contention is supported by field theory and social systems theory.

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[1] *Ibid.*, p. 115ff.

[2] *Ibid.*, p. 290.

[3] Carl R. Steinhoff, *Organizational Climate in a Public School System*, USOE Cooperative Research Program Contract No. OE-4-225, Project No. S-083 (Syracuse University, 1965).

Field Theory

Many of the seminal ideas for the study of organizational behavior originated in the work of Lewin.[1] Lewin argues that group behavior is a function of both the single person and the social situation. Neither the personality of the actor alone nor the nature of the social situation alone is adequate to interpret group behavior. Behavior (B) is a function (f) of the person (P) and of his environment (E):

$$B=f(P,E)$$

> . . . in the equation the person and his environment have to be viewed as variables which are mutually dependent upon each other. In other words, to understand or to predict behavior, the person and the environment have to be considered as _one_ _constellation of interdependent factors._ The interdependence of the psychological environment and the person is fundamental to the field theoretical approach.[2]

This concept implies the necessity of finding methods to represent the interrelationships of person and environment in common terms as part of one situation.

Through extensive clinical and experimental work with college students, Murray and his associates[3] developed two taxonomic classifications representing both organism and environment in common terms and comparable magnitudes. One represents the spontaneous behaviors of an individual; the other, the characteristic behaviors manifested by aggregates of individuals within the context of an environment. These are referred to as _needs_ and _press_, respectively.

Employing the _need-press_ construct, Stern[4] developed two matching instruments to extract objective measures of person and environment. Extensive research[1] with these instruments demonstrated that systematic relationships tend to develop between person and environment in formal organizations.

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[1] Kurt Lewin, _Field Theory in Social Science: Selected Theoretical Papers_, Cartwright S. Dorwin, ed. (New York: Harper Torchbooks, Harper & Row, 1951).

[2] _Ibid_., pp. 238-297.

[3] Murray, _op. cit_., 1938.

[4] George G. Stern, "Student Ecology and the College Environment," _Journal of Medical Education_, XL (March, 1965).

Schools as Social Systems

In social systems theory,[2] observed behavior of an individual in an organization is a function of the interaction between role and personality.

$$B=f(R,P)$$

Role (R) is defined by external standards set by others; personality (P) is defined by internal processes within the role incumbent. The two are phenomenally interactive and result in observable behavior.

Stern's[3] research in educational and industrial organizations suggests that the role expectations prescribed by the organization are reflected in the environmental press. The received roles or role cues reflect normative behavior in the organization. Personality is reflected in a description of need-dispositions which are characterized by objectives which individuals strive to achieve for themselves. The systematic person-environment relationships reported in his research were attributed to reciprocal selection and voluntary participation. The formal organizations studied were colleges, Peace Corps training sites, a school district, and a large, private, industrial corporation.[4] Considering the current awareness of human ecology one could expect such relationships to be found in public schools as well.

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[1] George G. Stern, "Environments for Learning," The American College: A Psychological and Social Interpretation of Higher Learning, R. N. Sanford, ed. (New York: John Wiley & Sons, Inc., 1962), pp. 690-730.

[2] Jacob W. Getzels, James M. Lipham and Ronald F. Campbell, Educational Administration as a Social Process: Theory, Research, Practice (New York: Harper and Row, 1968).

[3] Stern, op. cit., 1970, p. 7.

[4] Ibid., pp. 75-302.

It is generally acknowledged in organizational theory[1] that service institutions which exercise little or no control over selection or participation of their clientele develop patterns of accommodation which are influenced by characteristics of clients. Public high schools cannot select their student population. Neither, under present circumstances, can the students participate voluntarily. In general, schools are attended by the students of the surrounding community.

Wheeler[2] suggests an important effect of the variability in recruit populations in formal socialization agencies is the formation of subcultures within the organization. The formation of adolescent subgroups has been well documented in the literature by Coleman,[3] Havighurst,[4] and Hollingshead.[5] These studies focused on youth values, activities and interaction patterns. The most salient feature distinguishing subgroups was the socioeconomic background characteristics of the group majority. Carlson[6] has proposed adaptations to student nonselection and involuntary participation on the part of public schools might be pupil segregation by means of program tracking; goal displacement with emphasis on custodialism over education, or preferential treatment to particular student subgroups.

An assessment of need-press interaction in a heterogeneously populated public school should take into consideration the possibility of the formation of subgroups within schools which are related to student socioeconomic backgrounds as well as academic ability.

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[1] Amitai Etzioni, A Comparative Analysis of Complex Organizations of Power, Involvement, and their Correlates (New York: Free Press of Glencoe, 1961).

[2] Stanton Wheeler, "The Structure of Formally Organized Socialization Settings," in Socialization After Childhood: Two Essays, Orville G. Brim, Jr. and Stanton Wheeler, eds. (New York: John Wiley & Sons, Inc., 1965), p. 75.

[3] James S. Coleman, The Adolescent Society: The Social Life of the Teenager and Its Impact on Education (New York: The Free Press, 1961).

[4] Havighurst, op. cit., 1962.

[5] August B. Hollingshead, Elmtown's Youth (New York: John Wiley & Sons, Inc., 1949).

[6] Richard O. Carlson, "Environmental Constraints and Organizational Consequences: The Public School and its Clients," Behavioral Science and Educational Administration. Sixty-third Yearbook of the National Society for the Study of Education, Part II. Daniel Griffith, ed. (Chicago, Ill.: The University of Chicago Press, 1964), pp. 262-276.

Parsons,[1] in analyzing the extraorganizational impact of the school as a social system, has proposed that it serves as an agency of occupational socialization and social stratification. The socialization function may be summed up as the development in individuals of the commitments and capacities which are essential prerequisites of their future role performance. According to Parsons, these commitments provide society with essential occupational allocations and are related to both ascriptive as well as achievement factors. The ascriptive factor is the socioeconomic status of the child's family. As this variant generally determines residential segregation it consequently affects rather consistent socioeconomic background (SES) in student bodies. The SES variable is generally related to academic achievement as well. In heterogeneously populated schools, students of lower SES are likely to be found in lower ability groups.[2]

Needs-Press, Socioeconomic Characteristics and School Program

The college studies[3] did not focus on the relationship of socioeconomic background characteristics to student need patterns or the environmental press of their respective schools. Herr[4] studied one high school and suggested that perception of school press was a function of student personality needs. Stern[5] suggested that this similarity could be attributed to distinctive student socioeconomic background as well as exposure to different courses and activity patterns within the school. Student socioeconomic background and academic ability have been clearly and consistently associated with educational outcomes. This is not to suggest that these are the only variables involved. However, they are critical to an analysis of need-press relationships in public high schools. This would imply a relationship between four variables: (a) student socioeconomic background, (b) program placement, (c) personality structure (needs), and (d) environmental press.

---

[1] Talcott Parsons, "The School Class as a Social System: Some of Its Functions in American Society," Harvard Educational Review, XXIX (Fall, 1959), pp. 297-318.

[2] Lavin, op.cit., 1965.

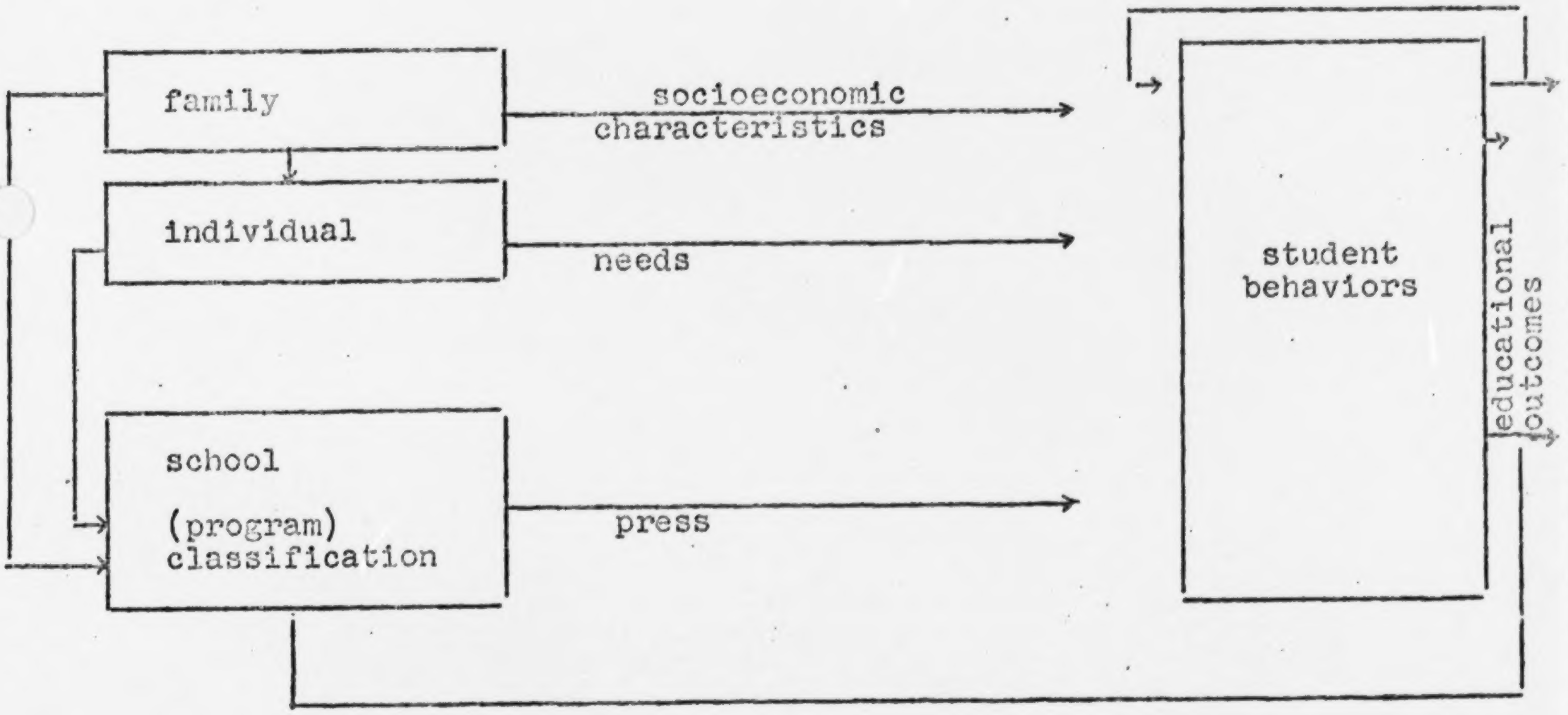
[3] Stern, op. cit., 1970.

[4] Edwin L. Herr, Howard R. Kight and James C. Hansen, "The Relation of Students' Needs to Their Perceptions of a High School Environment," The Journal of Educational Research, LXI (October, 1967), pp. 41-52.

[5] Stern, op. cit., 1970, pp. 260-261.

The following schema evolved from Parsons[1] theoretical work on social systems represents a view of the conceptual framework for this study.

Student Behavior as a System of Interaction


family
socioeconomic characteristics
individual
needs
school
(program) classification
press
student behaviors
educational outcomes

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[1] Talcott Parsons and Edward A. Shils, Toward a General Theory of Action (Cambridge, Mass: Harvard University Press, 1951).

Hypotheses

Due to the exploratory nature of this study, no directional hypotheses will be stated. However, it is suggested that a relationship will exist amond the following variables:

1. There will be a significant relationship between student socioeconomic background characteristics and student personality structure as measured by the Stern Activities Index.
2. There will be a significant relationship between students' academic program placement and student personality structure as measured by the Stern Activities Index.
3. There will be a significant relationship between student socioeconomic background characteristics and perception of the school environment as measured by the High School Characteristics Index.
4. There will be a significant relationship between students' academic program placement and perception of their school environment as measured by the High School Characteristics Index.
5. There will be a significant relationship between the socioeconomic setting of the school and students' perception of their school environment as measured by the High School Characteristics Index.
6. There will be a significant relationship between students' personality structure as measured by the Stern Activities Index and perceptions of school environment as measured by the High School Characteristics Index for academic ability groups among schools.

CHAPTER II

RELATED LITERATURE

Research Related to the Effects of Students' Socioeconomic Background Characteristics

Coleman,[1] Burkhead,[2] and Sexton[3] conducted extensive research showing students' socioeconomic status as the major variable in relation to educational outcomes. In a review of the literature on the prediction of academic performance, Lavin[4] showed socioeconomic status the outstanding variable in terms of sheer quantity of research. Charters sums the predictive relationship of this variable to educational experiences rather succinctly, ". . . the evidence . . . has been so consistently confirmed by research that it can now be regarded as an empirical law . . . ."[5]

Families of different socioeconomic status face different kinds of life situations, and, in adapting to them appear to develop different sets of values and life styles. Students of diverse backgrounds come to school with familiar socializing experiences which symbolize a variety of values, attitudes and motivations.[1] Coleman[2] has pointed out that the particular value systems defining peer group norms can influence the normative atmosphere of the school and that these value systems vary with the social backgrounds of the student body.

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[1] James S. Coleman, et. al., Equality of Educational Opportunity (Washington, D.C.: U.S. Department of Health, Education and Welfare, U.S. Government Printing Office, 1966).

[2] Jesse Burkhead, Input and Output in Large-City High Schools (Syracuse, New York: Syracuse University Press, 1967).

[3] Patricia Cayo Sexton, Education and Income (New York: Viking, 1961).

[4] David E. Lavin, The Prediction of Academic Performance: A Theoretical Analysis and Review of Research (New York: Russell Sage Foundation, 1965).

[5] W. W. Charters, "The Social Background of Teaching" in N. L. Gage, ed., Handbook of Research on Teaching (Chicago: Rand McNally, 1963), p. 739.

Differences in Attitude Toward School Between Socioeconomic Groups

Downey[3] found occupation and level of schooling strong predictors of how adults perceived the goals of education. The intellectual tasks of the school were much preferred to the social, personal and productive tasks by college graduates and professionals. People with less schooling who were blue-collar workers supported the intellectual tasks, but favored social and productive tasks almost as much. Hills[4] found upper, upper middle and middle class adults expressed preference for an intellectually strong curriculum with a secondary emphasis on social orientation. The vocational aspects of education were minimized. In contrast, the social aspects of education were more paramount for the lower and lower middle class adults, followed closely by vocational and intellectual expectations. A series of investigations supporting the relationship between adult occupation and educational expectations are summarized in The Task of Public Education.[5]

Rose[6] found a similar relationship between student social background characteristics and their attitudes toward the goals of education. High social status was found inversely related to vocational goals; low social status inversely related to general educational goals. Of particular interest for this study was the finding that over a four year period students from the lower social class tended to shift from vocational to academic goals after consistent experience at a large, urban university. Size, location, and time appear to influence student educational attitudes. Other research[1] has shown that when high schools are classified according to the socioeconomic status of the student body, the aspirations of individual students are influenced in the direction of the majority.

---

[1] Orville G. Brim, Jr., "Socialization through the Life Cycle," Socialization After Childhood: Two Essays, O.G. Brim, Jr. and S. Wheeler, eds. (New York: John Wiley and Sons, Inc., 1965).

[2] James S. Coleman, The Adolescent Society: The Social Life of the Teenager and Its Impact on Education (New York: The Free Press, 1961).

[3] Lawrence W. Downey, The Task of Public Education, (Chicago: Midwest Administration Center, University of Chicago, 1960).

[4] R. Jean Hills, "The Relationship Between the Educational Expectations of Social Class Groups and the Role Expectations within the Public High School" (Doctoral Dissertation), University of Chicago, 1961).

[5] Downey, op. cit., 1960.

[6] Peter I. Rose, "The Myth of Unanimity: Student Opinion on Critical Issues, " Sociology of Education, XXXVII (Winter, 1963).

The evidence presented by these studies suggests that students of diverse backgrounds bring to the school familial socializing experiences which influence their behavior. One of the purposes of this study was to determine if the socializing experiences usually identified with socioeconomic background characteristics are discernable in students' personality structures as measured by the Stern Activities Index (AI).

Differences in School Experiences Between Socioeconomic Groups

Cloward,[2] Riessman,[3] and Deutsch[4] have written extensively on the unfortunate school experiences of children of lower socioeconomic backgrounds. These studies focused primarily on the experience of non-white children. Educational disadvantage does not appear exclusive to them.

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[1] Natalie Rogoff Ramsey, "Local Social Structure and Educational Selection," in A. H. Halsey, J. Floud, and C. A. Anderson, Education, Economy and Society (Glencoe: The Free Press, 1961), pp. 242-243.

[2] R. A. Cloward and J. A. Jones, "Social Class: Educational Attitudes and Participation," in Education in Depressed Areas, A. M. Passow, ed. (New York: Bureau of Publications, Teachers College, Columbia University, 1963), pp. 190-216.

[3] Frank Riesman, The Culturally Deprived Child (New York: Harper and Row, 1962).

[4] Martin Deutsch, "The Disadvantaged Child and the Learning Process," Education in Depressed Areas, A. H. Passow, ed. (New York: Bureau of Publications, Teachers College, Columbia University, 1963), pp. 163-179.

Charters,[1] in a review of the literature, reports that pupils of the lower classes experience consistent frustration and failure in school. Pupils of higher socioeconomic classes experience consistent gratification and success in their educational experiences. Students' socioeconomic background characteristics influence grades, college plans, participation in school activities and social affairs. It also influences a variety of indicators of success in the informal structure of student society.

It appears inaccurate to assume a linear, ascending relationship between socioeconomic background and school experiences. Lavin sums the situation in regard to academic performance. "The relationship between socioeconomic status (SES) and academic performance is positive through most of the SES range, but at the upper SES levels, it is inverse."[2] This is consistent with Coleman's[3] research which reported greater school achievement values for middle class students than for upper or lower social class students. The latter group favored athletic and social interests.

Polk[4] and Stinchcombe[5] found status prospects more important than status origins in regard to high school students' behavior. Higher rates of dissatisfaction and rebellion were found among downwardly mobile middle class boys than among working class boys. In these studies, downward mobility was measured by subject failure and placement in a noncollege program.

The evidence presented by these studies suggests that students of diverse socioeconomic background characteristics have different experiences in schools, particularly in relation to academic achievement. Another purpose of this study was to determine if students of different socioeconomic backgrounds or of different academic program perceive the characteristics of their schools as measured by the High School Characteristics Index (HSCI) differently.

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[1] Charters, op. cit., pp. 739-740.

[2] Lavin, op. cit., 1965, p. 126.

[3] Coleman, op. cit., 1961.

[4] Kenneth Polk, "Class, Strain and Rebellion Among Adolescents," Social Problems, XVII (Fall, 1969), pp. 214-224.

[5] Arthur L. Stinchcombe, Rebellion in a High School (New York: Quadrangle Books, 1969), p. 265.

Differences in School Characteristics and Student Socioeconomic Background

Coleman[1] in The Adolescent Society pointed out that the particular value systems defining peer group norms can influence the normative atmosphere of the school. These value systems vary with the social backgrounds of the student body. This finding was substantiated by a mammoth national report Equality of Educational Opportunity[2] of which Coleman was principal author. That project focused primarily on the relationship of student socioeconomic background to academic achievement.

The effects on student achievement were attributed to the "educational proficiency" (i.e., social background and aspirations) possessed by the student body regardless of racial or ethnic composition.[3] Coleman concluded that the most important factor in educational outcomes was the characteristics of other children attending the same school.[4] This report suggests that the makeup of the student body appears to have less effect on the performance of students whose families encourage achievement. Students of lower socioeconomic background benefit more from an association with students of greater educational proficiency. It was suggested that the environment provided by the composition of the student body is asymmetric. It has its greatest effect on those from educationally deficient background.[5]

Wilson[6] found considerable variation in educational aspiration among high school boys of a particular social class within schools. This variation was attributed to the social climate of the school as determined by social class mix of the student body. Within social class strata, the attributes of the school environment appeared to symmetrically modify attitudes. Ninety-three percent of the sons of professionals, attending socially affluent schools reported wanting to go to college. About half as many sons of professionals, attending schools characterized as industrial and racially heterogeneous so reported. Whereas one third of the sons of manual workers attending primarily working class schools expressed a desire to go to college, more than half of such sons who attended middle class schools so wished.

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[1] Coleman, op. cit., 1961.

[2] Coleman, et. al., op. cit., 1966.

[3] Ibid., pp. 309-310.

[4] Ibid., p. 302.

[5] Ibid., p. 304.

[6] Alan B. Wilson, "Residential Segregation of Social Classes and Aspirations of High School Boys," American Sociological Review, XXIV (December, 1959), pp. 836-45.

Other research[1] has shown that when high schools are classified according to the socioeconomic status of the student body, the aspirations of individual students are influenced in the direction of the majority.

It would appear that systematic differences in school climates would be reported for high schools where a majority of the students share particular socioeconomic background characteristics. Consequently, the socioeconomic setting of the school was considered as another independent variable in the assessment of school characteristics by the students in this study.

Research Related to the Measurement of School and Student Characteristics by the Stern Indexes

Utilizing Murray's[2] theoretical construct of need-press, Stern and his associates[3] developed dual instrumentation (the College Characteristics Index and the Activities Index) to provide evaluative descriptions of the psychological characteristics of college environments and their students. These studies were unique as the characterization of school environment was extracted from data provided by the students. Such research was based on the assumption that the effective press of a school is what the students say it is, not what the faculty says, or what the catalog says.[1] Significant differences were reported in the environmental characteristics (*press*) of different colleges and in the personality structures (*needs*) of the students enrolled.

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[1] Ramsoy, op. cit., 1961; Ralph H. Turner, The Social Context of Ambition (San Francisco: Chandler Publishing Co., 1964).

[2] Murray, op. cit., 1938.

[3] George G. Stern and C. Robert Pace, "An Approach to the Measurement of Psychological Characteristics of College Environments," Journal of Educational Psychology, XLIX (No. 4, 1968), pp. 269-277.

Cohen[2] developed the intercorrelations for *AI* (needs) and *CCI* (*press*) data from fifty-five colleges. Five *joint need-press factors* were extracted which were referred to as *culture factors*. Each of the five factors drew on both *AI* and *CCI* first order factors as sources of variance. This joint relationship clearly reflected composite dimensions of institutional *culture* rather than either student personality or school climate alone. The college *culture* factors were termed: Expressive, Intellectual, Protective, Vocational and Collegiate. An extensive report of the ecological relationships between college students and the characteristics of their schools is in Stern's3 comprehensive work, *People in Context*.

Grossly summarized, the small, independent liberal arts colleges were described by a pronounced Intellectual *culture*. The student body was characterized by intellectuality and autonomy and the college was characterized by a highly intellectual climate. Large, university liberal arts colleges, in many cases, stressed a high level of collegiate play and peer amusements to the subordination of study, autonomy and intellectuality. Denominational liberal arts colleges were low in maintaining *press* for academic achievement but emphasized organized group activities in a well-ordered academic community. The personality characteristics of these students showed rather congruent configurations.[4]

Systematic differences in *need-press* relationships were also found within schools between program specializations.[5] The analyses of the college data clearly suggested the formation of ecological groups among schools and ecological subgroups within a heterogeneous school community.

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[1] *Ibid.*, p. 271.

[2] R. Cohen, "Students and Colleges: Needs-Press Dimensions for the Development of a Common Framework for Characterizing Students and Colleges," (Doctoral Dissertation, Syracuse University, 1966).

[3] George G. Stern, *People in Context: Measuring Person-Environment Congruence in Education and Industry* (New York: John Wiley and Sons, Inc., 1970).

[4] Ibid., pp. 83-84.

[5] Ibid., pp. 232-238.

The significant differences of student *needs* and environmental *press* among and within institutions was attributed to reciprocal selection and voluntary participation. It is suggested by the current research that differences in student socioeconomic background and academic ability may contribute to the development of similar ecological relationships which relate the characteristics of their institutional environment to the personality characteristics of the students. If this is the case, then there may appear consistent *need-press* relationships among schools as classified by socioeconomic variables. Because of organizational segregation within schools there may also appear patterns of *need-press* relationships between program classifications of high and low academic ability groups.

Research Related to High School Studies Using the Stern Indexes

Herr, Kight and Hansen[1] used the *HSCI* and the *AI* in one high school. The research reported correlations between scale scores of the two instruments was of such magnitude as to suggest a lack of independence. Stern[2] suggested the cause of this relationship may lie in the selective exposure of students to specific high school subcultures rather than to autistic perception. For instance, the more highly motivated, brighter, college-oriented students are likely to have distinctive socioeconomic background as well as different exposure to more specialized courses and activity patterns. No major high school research to date[3] has employed the *need-press* instruments in concert either with a large, diversified sample or with matched student groups identified by either socioeconomic background or academic program placement.

McDill, Meyers and Rigsby[4] conducted a study using an adaptation of the *HSCI* which showed that when socioeconomic and personal factors are held constant, the normative climate of the school has significant effects on student performance. Their results indicate that school environments which stress intellectualism, achievement and competition are more conducive to higher achievement on the part of individual students.

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[1] Edwin L. Herr, Howard R. Kight, James C. Hansen, "The Relation of Students' Needs to Their Perceptions of a High School Environment," *The Journal of Educational Research*, LXI (October, 1967), pp. 51-52.

[2] *Ibid.*, p. 261.

[3] Stern, *op. cit.*, 1970, p. 260.

[4] Edward L. McDill, Edmund D. Meyers, Jr., Leo C. Rigsby, "Institutional Effects on the Academic Behavior of High School Students," *Sociology of Education*, XL (Summer, 1967), pp. 181-199.

Mitchell[1] found support for this conclusion in his study of eleven high schools. Schools which were lowest as to socioeconomic classification were not lowest in regard to strong intellectual orientation. Schools higher in socioeconomic classification did not rank highest in terms of intellectual orientation. Schools in the middle socioeconomic classification were highest. Schools of highest socioeconomic setting ranked highest on school activities and lowest on strong environmental control. Schools of lowest socioeconomic classification ranked highest in those characteristics concerning environmental aggression. The sample was not separated as to academic subgroups within schools.

Bishop[2] used the HSCI in one suburban high school in the New York City metropolitan area. Student responses were categorized into high, middle, and low academic sections. Bishop reported little variance or difference existed between the scores of individual groups. He notes, "most of the students, regardless of the ability group with which they are associated, seem to share similar attitudes and perceptions, and in general, they are in agreement concerning the schools' climate.[3]

Kasper, Merger and Myers[4] used the HSCI to ascertain differences in perceptions of environmental press in guidance and non-guidance schools. Guidance schools reported higher dimensions of intellectuality, student personal dignity and individualism. Non-guidance schools appeared to encourage higher subordination and dependency. No description of the socioeconomic characteristics of the students or the school setting was provided in the study. The socioeconomic setting of a school may contribute to the availability of guidance services and it may also contribute to the prevailing press. The number of guidance counselors was recorded for each school in the present study.

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[1] James V. Mitchell, Jr., "Dimensionality and Differences in the Environmental Press of High School," American Educational Research Journal, V (November, 1968), pp. 513-530.

[2] Lloyd K. Bishop, "Organizational Climate and the Student," Individualizing Educational Systems (New York: Harper and Row, 1971).

[3] Ibid., p. 218.

[4] E.C. Kasper, P.F. Munger and R.A. Myers, "Student Perceptions of the Environment in Guidance and Non-guidance Schools," Personnel Guidance Journal, XLIII (March, 1965), pp. 674-677.

Direction of the Current Research

Although student nonselection and involuntary participation in public high schools makes the relationship of student personality structure to school environmental characteristics seem adventitious, the evidence presented in this chapter supports the contention that specific press of high schools can be distinguished. Press appears to vary from setting to setting. Different press may appear characteristic of academic subgroups in heterogeneous institutions. Press may be influenced by the socioeconomic setting of the school or the students. Personality characteristics have also been reported as varying with student socioeconomic background, the social class makeup of the school and academic ability.

The current research examines the environmental characteristics (press) of select high schools and the personality structures (needs) of the high school students. It also focuses on the interrelationships between these variables, socioeconomic background, school setting and student academic program placement.

CHAPTER III

METHODOLOGY

The Sample

In this study, 462 eleventh year high school students from thirteen high schools in the New York City metropolitan area responded to the *Stern Activities Index* (*AI*) and the *High School Characteristics Index* (*HSCI*). The schools represent a stratified sample. Because variety and representativeness were particular criteria for school selection there is no reason to consider these schools as unique. The sample from each school was randomly selected from those students classified in high and low ability groups in eleventh year English. The essential data describing the sample appears in Appendix I. The coding used to identify the independent variables appears in Appendix II.

All data were collected by the investigator and a research assistant. Participating schools and students were assured complete anonymity. The *AI* and *HSCI* answer sheets were given a matched number. Students responded to both instruments within a ten day period.

Characteristics of the Schools

Schools were selected on the basis of location and the socioeconomic characteristics of the community. At least three schools represent each of three locations: urban, fringe, and suburban. The classification of the socioeconomic characteristics of the communities represented were designated as upper-middle, middle-middle, or lower-middle. These categories were selected as none of the school settings could be classified as representative of extreme wealth or extreme poverty.

Urban schools are large high schools within the city limits of New York. These schools are not in the inner city or characterized by extreme racial tension. The large numbers of students are accommodated by two sessions: one, in the morning; the other, in the afternoon. Fringe schools are those in congested towns with moderate industry. Suburban schools are those located in an area classified as a typical bedroom community. Schools in these classifications are located in Nassau, Suffolk and Westchester counties in New York and Bergen, Morris and Middlesex counties in New Jersey.

The socioeconomic characteristics of the school settings were categorized after a visual inspection of the 1970 Census data, descriptive statements of the principal, and a visual inspection of the area by the investigator. The proximity of industry and commercial land use to housing, type of dwellings and the predominant students' socioeconomic background characteristics contributed to the classification of school setting. The socioeconomic setting of the school was classified as upper-middle when the predominant residential units could be classified as single family dwellings in excess of current market value of $40,000; middle-middle when the community had a mixture of multiple family and single family units currently valued at approximately $30,000; and lower-middle when the community was characterized by small lots, tract housing and multiple units in the form of developments. Five schools were classified as upper-middle; four as middle-middle; and four as lower-middle.

Characteristics of the Students

The socioeconomic background characteristics of students were determined from information provided by students concerning both of their parents' level of education and occupation. These data were collected on a Pupil Data Questionnaire (see Appendix III). A modification of the stratification scale developed by Warner[1] was used as a guide in the socioeconomic classification of students. Students were classified as upper-middle when their parent or parents were college graduates and professionals; middle-middle when their parents completed college or some college and were semiprofessionals or teachers; lower-middle when their parents were semiskilled or unskilled workers with high school equivalency or less.

In addition, students indicated on the Pupil Data Questionnaire their academic program (college preparatory or not), their program placement, and their educational and occupational aspirations.

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[1] W. Lloyd Warner, Marchia Meeker, Kenneth Eells, Social Class in America: A Manual of Procedure for the Measurment of Social Status (New York: Harper & Brothers, 1960), pp. 140-141.

For purposes of this research, program placement was defined as high or low ability group placement in eleventh year English. The selection of high and low ability groups within each school attempted to resolve the possibility of a highly diversified high school population obscuring the distinctive character of the various subgroups. Stern[1] indicated that a college level analysis based only on undifferentiated university samples would have failed to yield adequate data and that samples from large public schools should be broken down into ~~components~~ representing various academic groups. The ~~eleventh~~ grade was arbitrarily selected in an attempt to insure age and experiential consistency throughout the sample. The eleventh grade represents a year or more of experience in the school and the possibility of avoiding response distortion sometimes associated with the senior class.

The Stern Indexes

Stern and his associates developed two instruments[2] capable of objectively measuring the transactional relationship between individual personality structure (needs) and characteristics of the organizational environment (press). With these it is possible to measure both a personal need for some activity as well as the environmental characteristics pressing one to such activity. Needs are measured by the Activities Index. Press is measured by the High School Characteristics Index. Copies of these instruments are provided in Appendexes IV and V.

Each instrument consists of three hundred items equally distributed among thirty scales. These scales and their definitions are presented in Table 1. The scales are purely hypothetical constructs, proposed from a need-press taxonomy developed by Murray.[3] The scales are defined by the items assigned to each of them.[4]

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[1] George G. Stern, People in Context: Measuring Person-Environment Congruence in Education and Industry (New York: John Wiley and Sons, Inc., 1970).

[2] George G. Stern, Preliminary Manual, Activities Index (Syracuse: Psychological Research Center, Syracuse University, 1958)

[3] Henry A. Murray, Explorations in Personality (New York: Oxford University Press, 1938).

[4] Stern, op. cit., p. 16.

TABLE 1

AI AND HSCI SCALE DEFINITIONS[a]

1. Abasement-Assurance: self-depreciation versus self-confidence
2. Achievement: striving for success through personal effort
3. Adaptability-Defensiveness: acceptance of criticism versus resistance to suggestion
4. Affiliation: group centered social orientation
5. Aggression-Blame Avoidance: hostility versus its inhibition
6. Change-Sameness: flexibility versus routine
7. Conjunctivity-Disconjunctivity: planfulness versus disorganization
8. Counteraction-Inferiority Avoidance: restriving after failure versus withdrawal
9. Deference-Restiveness: respect for authority versus rebelliousness
10. Dominance-Tolerance: ascendancy versus forbearance
11. Ego Achievement: striving for power through social action
12. Emotionality-Placidity: expressiveness versus stolidness
13. Energy-Passivity: effort versus inertia
14. Exhibitionism-Inferiority Avoidance: attention-seeking versus shyness
15. Fantasied Achievement: daydreams of extraordinary public recognition
16. Harm Avoidance-Risk Taking: fearfulness versus thrill seeking
17. Humanities, Social Sciences: interest in the Humanities and the Social Sciences
18. Impulsiveness-Deliberation: impetuousness versus reflection
19. Narcissism: vanity
20. Nurturance-Rejection: helping others versus indifference
21. Objectivity-Projectivity: detachment versus superstition or suspicion
22. Order-Disorder: compulsive organization or details versus carelessness
23. Play-Work: pleasure seeking versus purposefulness
24. Practicalness-Impracticalness: interest in practical activities versus indifference to tangible personal gain
25. Reflectiveness: introspective contemplation
26. Science: interest in the Natural Sciences
27. Sensuality-Puritanism: interest in sensory and aesthetic experiences versus austerity or self-denial
28. Sexuality-Prudishness: heterosexual interests versus asceticism
29. Supplication-Autonomy: dependency versus self-reliance
30. Understanding: intellectuality

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[a] George G. Stern, People in Context: Measuring Person-Environment Congruence in Education and Industry (New York: John Wiley and Sons, Inc. 1970), p. 16.

The choice of responses is either *yes* or *no*. Each instrument requires approximately eighty minutes of uninterrupted time for completion.

The *AI* consists of statements of commonplace, socially acceptable activities. The subject is required to indicate if an item describes an activity or event he would like, enjoy or find more pleasant than unpleasant, as opposed to something he would dislike, reject or find more unpleasant than pleasant. The *AI* was designed as a systematic representation of the taxonomy of *needs* developed by Murray[1] as a theory of personality. Two assumptions underlie the specification of activities as descriptive of individual *needs*: one, characteristic classes of interactions are reflected in specific activities; two, manifestation of an interest in these activities is an index to actual participation in such interactions.

The *HSCI* was adapted from the *College Characteristics Index* by Stern and his associates in 1960.[2] The items and scales are conceptually matched to the *AI*. The *HSCI* is designed to assess the perceptions of students concerning the characteristics of the school's organizational environment (*press*). The subject is required to answer *True* or *False* to statements like, "Most classes are very well planned."

In order to ensure an adequate distribution among the various components of a conventional high school environment, the following elements are included in the questionnaire.

Academic:	faculty and program characteristics, classroom, examination and outside preparation activities, extracurricular academic activities such as science clubs, programs and awards.
Administrative:	organizational structure, rules and regulations, physical plant and facilities, student personnel facilities and practices.
Student:	general characteristics, community life, extracurricular activities, study patterns.[3]

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[1] Murray, *op. cit.*, 1938.

[2] Stern, *op. cit.*, 1970, p. 13.

[3] *Ibid.*, p. 14.

Validity

Scanlon[1] explored the objective validity of the *AI* by having each member of a group of subjects known to one another (medical students) classify the other group members on the basis of similarities in the test profile. The *AI* profiles of seventy-six subjects were classified in ten subgroups and compared with student ratings of personality characteristics of students assigned to each group. Significant differences and correlations were obtained.

Consequent studies exploring the predictive validity of the *AI* have shown differences between various professional groups in medicine,[2] teaching,[3] and industrial occupations.[4]

Environmental descriptions based solely upon *press* profiles have been confirmed by academic observers[5] at the college level. However, there is no estimate presently available of the validity of the environmental descriptions provided by the *HSCI* against a systematic outside criterion. Nevertheless, a number of high school environments have been analyzed,[6] and it is clear that the environmental descriptions identify distinctions between these environments.

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[1] James Scanlon, "The Activities Index: An Inquiry into Validity," (Doctoral dissertation, Syracuse University, 1958).

[2] George G. Stern and J. S. Scanlon, "Pediatric Lions and Gynecological Lambs," *Journal Medical Education,* XXXIII (Part 2, 1958), pp. 12-18.

[3] Carl R. Steinhoff, *Organizational Climate in a Public School System,* USOE Cooperative Research Program, Contract No. OE-4-225, Project No. S-083 (Syracuse University, 1965).

[4] Joel L. Richman and George G. Stern, "An Analysis of the Psychological Characteristics of Personnel and Environment in Remote Industrial Sites," mimeographed (Syracuse: Psychological Research Center, 1969).

[5] George G. Stern, "Environments for Learning," *The American College: A Psychological and Social Interpretation of Higher Learning,* R. N. Sanford, ed. (New York: John Wiley and Sons, Inc., 1962).

[6] Stern, *op. cit.*, 1970, pp. 250-258.

Instrument Independence

Research studies[1] using the Stern personality and environmental characteristics indexes in concert in college settings suggest that there is no relationship between the needs an individual reports for himself and the environmental press characteristics he attributes to the organizational context. Most often cited in support of this assertion is McFee's[2] study which reported a median correlation of .006 for the thirty pairs of scales carrying the same label on the AI and the CCI.

Saunders[3] concluded that the scale scores of the environmental measure were independent of the personality of the respondent. This conclusion was based upon factor analysis of the AI and the CCI. The total interpretable factors which were the result of a joint factor analysis of the AI and the CCI together separated into two sets of factors. One set was loaded primarily by the AI, the other, by the CCI.

The limitations of sample size and nonrandom selection make instrument independence tests inappropriate to this study. However, it appears safe to assume that the HSCI shares the independence of the CCI to the AI. Certainly, the variety of responses reported indicates this to be the case.

Stern[4] noted that if a perception of the organizational environment is reported by a particular student it is important to recognize that this report is true for him regardless of its objectivity. Such personal contamination should not affect the results of the present study as it is concerned with the consensual perception of aggregates of students, not individuals. These reports concern both student identification of their group needs and their description of the characteristics of their school environment.

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[1] Stern, op. cit. 1970, pp. 36-43; Anne McFee, "The Relation of Students' Needs to Their Perceptions of a College Environment," Journal of Educational Psychology, LII (1961), pp. 25-29.

[2] Ibid.

[3] David R. Saunders, "A Factor Analytic Study of the CCI," Multivariate Behavioral Research, IV (1969, pp. 329-346.

[4] Stern, op. cit., p. 11.

Reliability

The scale reliabilities for the AI and the HSCI estimated by means of Kuder-Richardson formula 20 appear in Appendix VI. An inspection of this table indicates that all the thirty scales cannot be treated with equal confidence. Clearly, most of the scales possess sufficiently high reliability to permit a fairly accurate appraisal of the various student personality and high school environmental characteristics. The factor scale loadings reported later in the text show the scales with low reliability widely scattered throughout the factor structure. The reliabilities for AI and HSCI factors and areas extracted in the present study appear in Appendix VII.

Treatment of Data

Correlation and analysis of variance were used to determine the significant relationships of the major variables in this study. The units of analysis are the composite responses of high school students classified by: school setting, ability group, and socioeconomic background characteristics. In order to replicate Stern's procedures data from each of the major instruments were subjected to factor analysis using an iterative principal axis solution which was subjected to equamax rotational analysis. Data from the entire sample of 462 students were used in the factor-analysis of each of the instruments.

The AI and HSCI Factors Extracted by Stern

According to Stern,[1] the underlying dimensions represented among the thirty scales emerge through factor analysis using college student data and a principal components-equamax analysis devised by David Saunders.[2] Stern[3] identified twelve first-order factors for the AI. These were: Self-assertion, Audacity-Timidity, Intellectual Interests, Motivation, Applied Interests, Orderliness, Submissiveness, Closeness, Sensuousness,

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[1] Ibid., p. 16.

[2] David R. Saunders, "A Factor Analytic Study of the Activities Index and the College Characteristics Index" (New York: College Entrance Examination Board, 1962).

[3] Ibid., pp. 35-52.

Friendliness, Expressiveness-Constraint, and Egoism-Diffidence. Three second order factors emerged which were identified as: Intellectual Orientation, Dependency Needs and Emotional Expression.

Seven HSCI first-order factors were identified from twelve widely scattered schools. These were: Intellectual Climate, Expressiveness, Group Life, Personal Dignity, Achievement Standards, Orderliness and Practicalness. One HSCI second order factor, loaded by the first five factors was identified. Stern considered the content of these factors relevant to personal growth and development and called the factor Development Press.

A Comparison of the Current HSCI Profiles to the Stern Referent Population

The HSCI answer sheets were machine scored by National Computer Systems, Minneapolis, Minnesota. The results were summarized as factor and area standard scores for each of the thirteen schools and twenty-six subgroups using norms developed from the referent population[1] (see Tables 2 and 3). This referent population for the HSCI scored at National Computer Systems is composed of twelve high schools in various states of the midwest and northeast. It is compiled from data collected five to ten years ago. The test samples were not obtained at random or by one investigator. A visual inspection of the summarized HSCI data show that the factor standard scores of many of the schools in the present study are more than two standard deviations from the mean. This would indicate that the data provided by the schools are representative of less than five percent of the national population. Although the current sample was neither randomly drawn nor from the original referent sample there is no reason to consider it unique. Considerations of temporality and the nonrandomness of the referent population suggested the development of a new factor structure. This will be discussed in the following chapter.

Treatment of AI Responses of Males and Females

Stern[2] showed sex as an important variable in differentiating the composite needs of one student body from another.

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[1] Stern, op. cit., 1970, pp. 250-258.

[2] Ibid., pp. 99-111.

TABLE 2

HSCI FACTOR AND AREA STANDARD SCORES: STERN'S FACTOR STRUCTURE[a]

School	Intellectual Climate	Expressiveness	Group Life	Personal Dignity	Achievement Standards	Orderliness	Practicalness	Development Press
121	-4.01	-3.55	-4.92	-5.14	-7.75	-3.39	-2.00	-6.93
131	-3.21	-2.64	-3.71	-2.67	-5.41	-1.10	-2.26	-4.82
132	-3.04	-2.95	-3.10	-3.59	-5.52	-1.53	.10	-4.99
211	-2.19	-1.68	-2.71	-2.13	-3.53	-3.53	-1.30	-3.88
212	-5.81	-4.07	-5.21	-5.66	-8.79	-4.87	-1.38	-8.11
221	-5.60	-4.56	-5.45	-5.85	-8.27	-2.88	-1.85	-8.16
222	-4.05	-3.54	- .44	-4.19	-4.86	-1.79	.51	-4.77
231	-5.37	-4.12	-4.34	-6.04	-8.08	-1.48	- .56	-7.69
232	-6.67	-5.18	-4.89	-5.45	-7.40	-1.03	-1.14	-8.18
311	-3.53	-2.33	-2.69	-5.59	-5.72	-1.95	.75	-5.47
312	-2.63	-2.40	-3.88	-3.42	-8.19	-3.99	-1.84	-5.56
313	-3.03	-2.57	-4.06	-1.23	-6.69	-5.11	-4.43	-4.78
321	-4.43	-3.73	-4.34	-4.31	-9.83	-4.62	-1.90	-7.27

$\bar{X}=0$, s.d.=2

[a] Standard scores based on twelve high schools in various states of the midwest and northeast compiled from data collected five to ten years ago.

TABLE 3

HSCI FACTOR AND AREA STANDARD SCORES:
STERN'S FACTOR STRUCTURE[a]
26 HIGH AND LOW
ABILITY GROUPS

High and Low Ability Groups	Intellectual Climate	Impulse Expression	Group Life	Personal Dignity	Achievement Standards	Orderliness	Practicalness	Development Press
1211	-3.66	-3.66	-4.97	-4.61	-7.80	-3.18	-2.26	-6.70
1212	-4.59	-3.61	-4.83	-6.03	-7.67	-3.74	-1.56	-7.33
1311	-3.92	-3.03	-4.37	-1.04	-6.14	-1.74	-3.34	-5.05
1312	-2.42	-2.20	-2.97	-4.52	-4.57	-0.37	-1.04	-4.56
1321	-3.68	-4.01	-3.38	-3.07	-6.93	-2.59	0.01	-5.77
1322	-2.01	-1.24	-2.64	-4.42	-3.24	0.18	0.25	-3.71
2111	-2.64	-1.92	-4.25	-0.87	-5.63	-5.81	-2.04	-4.14
2112	-1.57	-1.34	-0.55	-3.81	-5.50	-0.34	-0.26	-3.52
2121	-6.07	-4.62	-6.08	-4.78	-9.83	-4.18	-2.00	-8.60
2122	-5.58	-3.57	-4.44	-6.45	-7.85	-5.49	-0.83	-7.68
2211	-5.60	-4.52	-6.00	-5.46	-8.20	-3.46	-1.82	-8.17
2212	-5.58	-4.69	-3.82	-7.01	-8.48	-1.15	-1.92	-8.15
2221	-1.97	-2.65	0.00	-2.99	-3.32	-1.27	0.65	-3.04
2222	-5.61	-4.21	-0.78	-5.09	-6.01	-2.19	0.40	-6.07
2311	-5.14	-4.10	-4.70	-5.65	-7.65	-1.74	-0.09	-7.49
2312	-5.68	-4.15	-3.86	-6.56	-8.65	-1.14	-1.19	-7.96
2321	-8.06	-6.00	-5.73	-5.47	-7.63	-1.40	-2.06	-9.11
2322	-3.27	-3.17	-2.83	-5.39	-6.84	-0.10	1.11	-5.90
3111	-4.15	-2.95	-3.63	-4.73	-5.47	-3.09	0.28	-5.76
3112	-3.08	-1.86	-2.00	-6.22	-5.91	-1.11	1.09	-5.25
3121	-3.81	-3.25	-5.31	-2.53	-9.91	-6.27	-2.97	-6.73
3122	-0.91	-1.16	-1.79	-4.71	-5.68	-0.66	-0.18	-3.86
3131	-4.28	-3.92	-5.73	-1.62	-7.34	-4.74	-5.26	-6.24
3132	-1.57	-0.98	-2.09	-0.77	-5.91	-5.56	-3.46	-3.05
3211	-5.60	-4.98	-5.70	-4.78	-10.95	-5.36	-2.92	-8.75
3212	-2.67	-1.84	-2.30	-3.62	-8.14	-3.52	-0.36	-5.06

$\bar{x}=0$, s.d.=2

[a] Standard scores based on twelve high schools in various states of the midwest and northeast compiled from data collected five to ten years ago.

Sex did not appear to contribute significantly to differences in perceptions of press. Differentiated AI means by sex were developed from the original normative sample of college students.[1] As the AI norms developed from the original sample were from college student data, no comparison of scores was made. Because the present study is concerned with the presentation of a profile of the personality structures of high school students, a new factor analysis from the AI data was computed. This is discussed in Chapter IV.

Limitations of the Present Study

This study is limited to a sample of select high schools in the New York City metropolitan area. Because the findings are based on a fortuitious sample not drawn at random from a clearly defined population, we cannot state what the distribution of AI and HSCI scores would be for a representative sample of schools or groups of high school students in the United States.

The data in this study from the AI and the HSCI provide valuable descriptions of how groups of high school students in a major metropolitan area see themselves and see their schools. Although generalizations from this study cannot be made to the total high school population, the results might be applicable to populations in similar metropolitan areas. Considering the national extent of urban sprawl, the characteristics of students and schools discussed in the following chapters may have important implications for public education.

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[1] Ibid., pp. 78-86.

CHAPTER IV

GENERATION OF THE *AI-HSCI* FACTOR STRUCTURE

The major dependent variables in this study are measures of students' personality structure (*needs*), environmental characteristics of high schools (*press*), and a measure of the joint interaction of these two variables, (*need-press* relationship) which describes a high school *culture*.

Because a discussion of sixty variables would be unwieldly, the scale data of the *AI* and the *HSCI* were subjected to factor analysis. These analyses were computed from programs available at the Syracuse University Psychological Research Center. The factor analytic procedures used in the college studies[1] were replicated.

AI Factor Structure

A factor analysis of the *Activities Index* data was undertaken to determine the interscale relationships of the instrument for a population of 462 high school students in the metropolitan area of New York City. The scale intercorrelations are presented in Appendix VIII. The resulting matrix was factored by an iterative principal axis solution. These data appear in Appendix IX. Seven principal axis factors having eigenvalues greater than unity were extracted, which accounted for 59 percent of the common variance. These factors were submitted to an equamax rotational analysis devised by Saunders.[2] The data resulting from this rotation are presented in Table 4.

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[1] George G. Stern, *People in Context: Measuring Person-Environment Congruence in Education and Industry* (New York: John Wiley and Sons, Inc., 1970), pp. 36-37.

[2] David R. Saunders, "A Factor Analytic Study of the CCI," *Multivariate Behavioral Research,* IV (1969), pp. 329-346.

TABLE 4

AI EQUAMAX ROTATION FIRST-ORDER FACTOR MATRIX
N=462

Scale Abbs		Achievement Motivation 1	Emotionality 2	Independence 3	Unassertive-ness 4	Intellectuality 5	Individuality 6	Exertiveness 7
1.	Abb-Ass	-.085	.078	-.143	-.114	-.122	-.311	-.637
2.	Ach	.616	-.079	-.022	-.230	-.305	-.131	-.075
3.	Ada-Efs	.138	.016	.025	.139	.005	.152	-.780
4.	Aff	.252	.131	-.502	-.205	.438	-.074	-.273
5.	Agg-Bla	-.096	.171	.262	-.590	.043	-.004	.290
6.	Cha-Sam	.094	.694	.010	.022	-.018	.155	-.012
7.	Chj-Dsj	.272	-.466	-.338	-.014	-.274	-.358	-.227
8.	Ctr	.603	-.116	-.040	.095	-.151	.134	-.183
9.	Dfr-Rst	.213	-.133	-.379	.182	-.137	-.247	-.456*
10.	Dom-Tol	.144	.027	-.159	-.754	-.096	.029	.249
11.	E/A	.119	.095	-.117	-.662	-.440	.020	-.132
12.	Emo-Pl	-.137	.644	-.349	.003	-.087	-.132	-.114
13.	Eny-Pas	.678	.190	-.086	.042	.060	.121	-.051
14.	Exh-Inf	.004	.083	-.109	-.705	.019	-.251	-.196
15.	F/A	.239	.008	-.002	-.487	-.152	-.503	.216
16.	Har-Rsk	-.303	-.301	-.524	.240	-.321	-.022	-.047
17.	Hum	.125	.108	-.122	-.245	-.726	-.008	-.230
18.	Imp-Del	-.005	.588	.027	-.213	.167	.051	.068
19.	Nar	-.069	.324	-.514	-.097	-.021	-.496	.063
20.	Nur	.195	.372	-.537	-.044	-.134	-.137	-.361
21.	Obj-Pro	.173	-.005	-.115	.066	-.031	.734	.097
22.	Ord	.212	-.299	-.310	.134	-.078	-.569	-.214
23.	Ply-Wk	-.023	.255	-.174	-.260	.633	.085	.155
24.	Pra-Imp	.552	-.014	-.077	-.246	-.261	-.252	-.058
25.	Ref	.214	.413	-.317	-.180	-.495	-.105	.022
26.	Sci	.423	-.131	.040	-.255	-.551	-.161	.066
27.	Sen-Pr	.012	.643	-.131	-.164	-.035	-.224	-.063
28.	Sex	-.049	.355	-.517	-.053	.085	-.493	-.101
29.	Sup	.153	.038	-.734	-.145	-.027	.007	-.174
30.	Unp	.445	.094	-.199	-.158	-.634	.066	-.029

*Minimum value .456 arbitrarily selected to insure each scale loading at least once.

Previous studies utilizing the AI with students,[1] teachers,[2] and telephone operators[3] extracted from four to twelve factors. A search of the literature showed no major study which extracted a factor analysis of the AI from a population of high school students. Considering the relative similarity in age and organizational context, Stern's factor structuring of college students' needs was used as a guide for the present analysis. Although Stern's analysis yielded twelve factors and this study yielded but seven, the categorization appears appropriate. Thus, similar names, with modification, have been assigned to the factors.

AI First Order Factors

In this study the factors are:

1. Achievement Motivation
2. Emotionality
3. Independence-Dependence
4. Unassertiveness-Dominance
5. Intellectuality
6. Individuality
7. Exertiveness-Submissiveness

Although it is not the purpose of this study to compare and contrast the characterization of student bodies extracted by the two analyses, it is important to note the rather striking difference in group personality profiles between college students of the late 1950's and early 1960's and the high school students of the early 1970's. The earlier studies described an image of college youth reflecting the findings of the major adolescence studies[1,2] of the period. Those adolescents were characterized by group centeredness, peer dependence, upward mobility, and romantic preoccupations.

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[1] Stern, op. cit., 1970, pp. 37-52.

[2] Carl R. Steinhoff, Organizational Climate in a Public School System, USOE Cooperative Research Program Contract No. OE-4-225, Project No. S-083 (Syracuse University, 1965).

[3] Edwin J. Alsing, "Organizational Climate in a Public Utility," (Doctoral dissertation, New York University, 1971).

In contrast, the factor patterning of the present study suggests a profile of youth which is both serious and engaged but also fragmented and alienated; intellectually indifferent but emotionally expressive. Most striking is the characterization of privatism and general disdain for what might appear dominating behavior.

The distribution of the thirty _Activities Index_ scales in their factor categories follows. A _scale description_ is provided to supply a referent to the underlying intent of the various items which contribute to the scale score.

The dimensions of many of the thirty scales are bi-polar. Positive scale loadings are indicative of directionality toward the former dimension; negative scores of directionality toward the latter. For example, in the Abasement-Assurance scale, a positive score indicates direction toward Abasement; a negative score toward Assurance. In the case of a singular descriptive scale, such as Achievement, a high positive score suggests higher Achievement _needs_. A high negative loading indicates lower Achievement _needs_.

The _AI_ first order factors and loadings are:

1. _Achievement Motivation_

This factor clearly replicates the motivation and achievement dimensions in Stern's[3] _AI_ factor analysis of college students. The cluster of characteristics describes a highly energetic student body who are active, intense and intellectually curious. They are capable of prolonged interest, set high standards and goals for themselves, do not shirk from challenging tasks, have a good self-image, and a basically pragmatic approach to life. A high positive Factor 1 score would characterize student groups high in Achievement Motivation _needs_.

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[1] James S. Coleman, _The Adolescent Society: The Social Life of the Teenager and Its Impact on Education_ (New York: The Free Press, 1961).

[2] R. J. Havighurst, et. al., _Growing Up in River City_ (New York: John Wiley and Sons, Inc., 1962).

[3] Stern, _op. cit._, 1970, p. 38.

Scale Name	Description	Loading
Energy-Passivity	Highly active, sustained vigorous effort	.678
Achievement	Striving for success through personal effort	.616
Counteraction	Persistent striving to overcome failure, frustration, embarrassment	.603
Practicalness-Impracticalness	Basic, pragmatic approach	.552

2. Emotionality

High positive scores on this factor indicate desires for noncompulsive activity, avoidance of routine, and intense, open, emotional expression. Behavior is likely to be spontaneous, impetuous and a little self-indulgent. Students would tend to avoid rigorous planning and follow through. These youngsters are preoccupied with sensory stimulation and they appear introspective. This factor is unlike any factor described by Stern[1] in the college studies. As it reads, it presents a multi-dimensional profile of youth which summarizes the challenge to education today. A high positive Factor 2 score would indicate groups high in Emotionality.

Scale Name	Description	Loading
Change-Sameness	Non-compulsive, seeks new experiences	.694
Emotionality-Placidity	Intense, open expression of feelings	.644
Sensuality-Puritanism	Preoccupied with sensory stimulations and gratification	.643
Impulsiveness-Deliberation	Rash, impulsive behavior	.588
Conjunctivity-Disjunctivity	Avoidance of planning, preserverance	-.466

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[1] Ibid., pp. 49-52.

3. Independence-Dependence

The highest scale loading in this factor is autonomy. The student body may be characterized as: self-reliant, individualistic, disassociated from group interaction, rather audacious, unromantic, unpreoccupied with heterosexual love, and detached from group norms concerning dress or social form. The consistently high negative scores on Nurturance, Narcissism and Affiliation suggest that many of today's youth are unaffiliated and unsupportive of others. In short, one profile of youth of the 1970's emerges: individualistic, privatistic, audacious and somewhat unkempt.

The weights of the salient factor loadings in Factor 3 are negative. This indicates directionality toward the independent end of the continuum. Consequently, a high positive Factor 3 score would characterize student groups who express high needs for Independence.

Scale Name	Description	Loading
Supplication-Autonomy	Independent, individualistic	-.734
Nurturance	Unsupportive of others self-involved	-.537
Harm Avoidance-Risktaking	Venturesome, audacious	-.524
Sexuality-Prudishness	Unromantic, unpreoccupied with heterosexual love	-.517
Narcissism	Unpreoccupied with self, body, dress	-.514
Affiliation	Privatistic, socially independent	-.502

4. Unassertiveness-Dominance

The scale loadings in this factor suggest a purposeful avoidance of dominating behavior such as social leadership and persuasion. Students show little or no interest in influencing, controlling or directing the actions of others. They lack hostility, are rather self-conscious and have no desire to be the center of attention. Their unaggressive attitude is consistent with their manifested lack of aspiration for fame, power and personal distinction. The disdain for dominating attitudes and disinterest in political action are described by the negative loadings of Ego Achievement and Fantasied Achievement. The negative scale loadings of Factor 4 indicates directionality away from the dominating end of the continuum. A high positive Factor 4 score would represent groups characterized as Unassertive.

Scale Name	Description	Loading
Dominance-Tolerance	Avoidance of dominating behavior, egalitarianism	-.754
Exhibitionism-Inferiority Avoidance	Self-consciousness, shyness, humility	-.705
Ego Achievement	Disinterest in influence, persuasion, or power	-.662
Aggression-Blame Avoidance	Unaggressive, unhostile behavior	-.590
Fantasied Achievement	Undesirous of challenge, or commitment	-.487

5. Intellectuality (Anti-)

This factor appears as the reflection of Stern's AI factor in the college studies: Intellectual Interests. The contributing scale loadings add up to a profile of student intellectual indifference, disengagement with the learning environment, disinterest in the social or physical sciences, limited introspection or aesthetic awareness. These students want to "get as much fun out of life, even if it means sometimes neglecting more serious things." Persistently purposeful, task-oriented behavior is avoided. High positive Factor 5 scores will refer to groups characterized by the anti-intellectual end of the factor continuum. High negative Factor 5 scores would indicate high Intellectuality.

Scale Name	Description	Loading
Humanities	Disinterest in political or social problems; humanities	-.726
Understanding	Intellectual indifference, poor concentration	-.634
Play-Work	Fun seeking, work avoiding	.633
Science	Lack of scientific curiosity, experimenting, theorizing	-.551
Reflectiveness	Uncontemplative, unimaginative, detached from self	-.495

6. Individuality

The unique combination of scale loadings in this factor are indicative of students who are characterized by: rational views, uncompulsive, somewhat disorganized behavior, and a lack of aspiration for fame and power through personal endeavor. They are unpreoccupied with romantic, heterosexual love and show some disdain for self-centered, egotistical behavior.

Scale Name	Description	Loading
Objectivity-Projectivity	Rational, unsuperstitious	.734
Order-Disorder	Uncompulsive, bordering on disorderly	-.569
Fantasied Achievement	Undesirous of challenge and commitment	-.503
Sexuality-Prudishness	Unromantic, unpreoccupied with heterosexual love	-.493
Narcissism	Non-ego-centric, Unpreoccupied with self	-.496

The highest scale contributing to Factor 6 is Objectivity. Objectivity, according to Murray,[1] describes the absence of Projectivity. Common characteristics are impartiality, detachment, disinterest, tolerance, and understanding. These students can be characterized as differentiating clearly between the images of the mind and the object in the external world. They are more concerned with actuality than fantasy. Egocentricity is also characteristic of projectivity. Piaget[2] used the term egocentricity to describe the self-centered perceptions of the world characteristic of young children. Because adolescence is often the time when young people begin to differentiate clearly between the images of the mind and the objects of the external world, high scores on Objectivity may be interpreted as indicative of adolescent maturity.

The contributing scale loadings of Objectivity, Disorder, and Fantasied Achievement (negative) appear indicative of the variety of conflicting dimensions characteristic of adolescence.

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[1] Henry A. Murray, Explorations in Personality (New York: Oxford University Press, 1938), p. 221.

[2] Jean Piaget, The Construction of Reality in the Child, (New York: Basic Books, Inc., 1954).

High positive scores would be indicative of that potpourri of adolescent needs we shall term Individuality.

7. Exertiveness-Submissiveness

Here, again, is the reflection of the factor Submissiveness extracted by Stern.[1] Students described by this factor are not likely to admit when they are wrong and will defend themselves against criticism or blame. Their behavior expresses certainty, self-confidence and lack of timidity. High scores on Restiveness indicate discomfort in a subordinate role, dislike of following direction, resistance, rebelliousness and general noncompliant behavior.

Scale Name	Description	Loading
Adaptability-Defensiveness	Defensive reaction to error or failure, resistance to suggestion	-.780
Abasement-Assurance	Certainty, self-confidence, self-glorification	-.637
Deference-Restiveness	Resistance, insubordination, general noncompliance	-.456

High positive scores on Factor 7 would characterize students who are low in submission, acquiescence and timorousness. In general, they will not stand aside, take a back seat and let others push by without rebellion, complaint or retaliation. Defensiveness coupled with these attitudes suggests the probable concomittance of a subsidiary need, Aggression. An inspection of the scale loadings of Factor 7 (see Table 10) shows substantial loadings of high Aggression, low Nurturance, and low Affiliation.

Second Order AI Factor Analysis

To compute a second order factor analysis, the sequence of procedures described above was repeated for the seven AI first order factors. The intercorrelations between the factors are shown in Appendix X. Appendix XI presents the principal axis factor matrix. These factor relationships suggest three second order areas which emerge clearly in the equamax rotation matrix presented in Table 5. The three second order factors account for 73 percent of the first order variance; 56 percent by the first two and 37 percent by the first factor alone.

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[1] Stern, op. cit., 1970, pp. 45-52.

TABLE 5

AI EQUAMAX ROTATION SECOND-ORDER AREA MATRIX

	AI Factor	Dependency Needs I	Intellectual Orientation II	Emotional Expression III
1.	Achievement Motivation	.186	.784	.256
2.	Emotionality	.282	-.275	-.582
3.	Independence-Dependence	-.918	-.071	.073
4.	Unassertiveness-Dominance	-.126	-.521	.720
5.	Anti-Intellectuality	-.098	-.853	.080
6.	Individuality	-.809	-.178	.219
7.	Exertiveness-Submissiveness	-.586	-.286	-.587

The needs factors of the present study emerge into second order space which replicate those developed from the college data.[1] They can be classified with Stern's terminology as:

I. Dependency Needs
II. Intellectual Orientation
III. Emotional Expression

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[1] Stern, op. cit., 1970, pp. 45-52.

The AI factors extracted in the present study with the contributing loadings to second order areas are as follows:

I. Dependency Needs

Factor No.	Description	Loading
3	Independence	-.918
6	Individuality	-.809
7	Exertiveness	-.586

Interpreting the loadings of the factors, a second order area emerges which identifies needs for: group interaction and support, control of the immediate environment, romantic love and general self-abasing behaviors which will insure group acceptance. However, social conformity, in this second order area, is coupled with fantasies of power, fame, and personal distinction (negative individuality). This is a direct contrast to the loadings on Dependency Needs in the college studies. The Dependency area in that study suggested a deemphasis of the self as a primary source of gratification and value. Students high in Dependency Needs were characterized in that analysis by a vague or obscurely defined self-concept, and a low level of self-esteem.

The personality characteristics represented by high scores in AI Area I in the present study represent students preoccupied with group acceptance and support, security and affiliation. At the same time they are preoccupied with themselves and daydream of greatness and love. A high positive score on AI Area I would suggest a generally high level of dependent, normative and socially controlled behavior.

II. Intellectual Orientation

Factor No.	Description	Loading
1	Achievement Motivation	.784
5	Anti-Intellectuality	-.853

The inverse relationship of Factor 1 and Factor 5 combine to form AI Areas II, Intellectual Orientation. High positive scores on this factor suggests a highly energetic student body, persistent in striving for success through personal effort. They prefer activities in humanities, social interests, and scientific experimentation. They are challenged, engaged and purposeful in their behavior. Although preoccupied with private psychological, aesthetic and metaphysical experiences in regard to themselves, their interests in achievement and practical application of skill suggest a clearly pragmatic approach.

III. Emotional Expression

Factor No.	Description	Loading
4	Unassertiveness	.720
7	Exertiveness	-.587
2	Emotionality	-.582

The directional relationships posited by the factor loadings suggested that groups characterized by high AI Area III scores indicate strong needs for social participation and emotional spontaneity. They can be characteritzed as intensely open and expressive, desirous of non-compulsive activities, impetuous in their behavior and preoccupied with sensory stimulation and gratification. They are self-confident, defensive and do not like to admit mistakes or inadequacies. In addition, they have high leadership potential as they like to be persuasive and influential. Such social behavior has its limits, however, because these students are generally non-compliant, aggressive and sometimes hostile. Most of all they are restless and desirous of change. An independent and rather rebellious stance colors this profile of students.

This characterization is in marked contrast to Stern's[1] personality descriptions of college youth in the 1960's. In that analysis, Emotional Expression was characterized by closeness, friendliness, sensuousness, expressiveness, and egoism. The ordering of AI Area III in the present analysis, with Dominance loading highest, followed by Emotionality and Exertiveness, indicates a less group-oriented, more self-centered approach.

HSCI Factor Structure

A factor analysis of the High School Characteristics Index was undertaken to determine the interscale relationships of the instrument. The intercorrelated scale responses of 462 students are presented in Appendix XII. The resulting matrix was factored by an iterative principal axis solution.

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[1] Stern, op. cit., 1970, p. 51.

These data appear in Appendix XIII. Six principal axis factors were derived which had eigenvalues greater than unity. These factors account for 51 percent of the common variance. The factors were submitted to an equamax rotational analysis. This rotated factor matrix appears in Table 6.

The data from the present study of thirteen high schools in the New York City metropolitan area yielded six factors which fall essentially into the factor patterning of the *HSCI* reported by Stern.[1] All the *HSCI* thirty scales loaded on the six factors. Previous studies[2] utilizing the *HSCI* have extracted four to seven factors. A comparison of five independent factor analyses of the *HSCI* appears in Appendix XIV. A visual inspection of the comparative loadings shows the factor structures to be quite similar. Considering the differences in sample populations (this was not the original population, a national sample, or randomly selected), this factor structure bears evidence to the validity of the *HSCI* as a descriptive tool.

An important modification in factor patterning emerges however, which may be indicative of the contemporary high school environment. The new factors appear to reflect a divergence from the model of high school life which the instrument originally described more than a decade ago. The *HSCI* appears sufficiently able to report these different environmental vignettes and present a picture of high school life more appropriate to the 1970's.

This new model is particularly interesting in regard to the Achievement factor. Stern's[3] original factor appeared to emphasize academic standardization. The factor was termed Achievement Standards. In the present analysis a dynamic achievement profile emerges which stresses action, innovation, expressiveness and student participation. Two scales, Narcissism and Orderliness, attributed by the previous analysis to an achievement dimension of school life are dropped from the new factor loading. The Narcissism scale deals primarily with

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[1] *Ibid.*, pp. 251-255.

[2] H.R. Kight and E.L. Herr, "Identification of Four Environmental Press Factors," *Stern High School Characteristics, Education Psychological Measurement*, XXVI (1966), pp. 479-481; James V. Mitchell, Jr., *op. cit.*, 1968.

[3] Stern, *op. cit.*, p. 255.

TABLE 6

HSCI EQUAMAX ROTATION FIRST-ORDER FACTOR MATRIX
N=462

Scale Abbs		Group Life 1	Normative Control 2	Orderliness 3	Intellectual Climate 4	Personal Dignity 5	Individualized Achievement 6
1.	Abb-Ass	.113	.061	.182	-.163	-.754	-.204
2.	Ach	-.037	.076	.298	.159	.240	.392*
3.	Ada-Dfs	-.143	.172	.179	-.105	-.646	.177
4.	Aff	-.754	.165	.089	.106	.135	.042
5.	Agg-Bla	.158	.249	.359	.017	-.520	.233
6.	Cha-Sam	.065	.018	-.160	.194	-.036	.424
7.	Chj-Dsj	-.226	.286	.219	.154	.622	.178
8.	Ctr	-.177	.059	-.213	.076	.171	.582
9.	Dfr-Rst	-.030	.125	.575	.018	-.191	-.207
10.	Dom-Tol	.145	.583	.101	-.086	-.390	.122
11.	E/A	-.199	.238	.020	.508	.149	.267
12.	Emo-Pl	-.208	.130	-.012	.013	-.062	.581
13.	Eny-Pas	-.440	.156	.291	.254	.285	.369
14.	Exh-Inf	-.534	.196	.161	.275	.022	.298
15.	F/A	.011	-.035	-.041	.632	-.011	.000
16.	Har-Rsk	-.033	-.294	.413	.237	.028	.043
17.	Hum	-.186	.025	.078	.662	.167	.035
18.	Imp-Del	-.123	.299	-.548	.332	.078	-.153
19.	Nar	-.347	.435	.464	.044	-.054	.025
20.	Nur	-.498	.106	.257	.267	.111	.350
21.	Obj-Pro	-.132	-.020	-.116	.110	.807	.189
22.	Ord	-.061	.232	.654	.031	.015	-.110
23.	Ply-Wk	-.753	.218	-.122	.019	.039	.059
24.	Pra-Imp	-.221	.696	.096	.024	.111	.133
25.	Ref	-.065	.162	.054	.579	.202	.342
26.	Sci	-.359	.044	.290	.518	.145	.043
27.	Sen-Pr	-.397	-.126	-.155	.494	.100	.099
28.	Sex	-.174	.676	-.029	.106	-.075	.039
29.	Sup	-.387	-.092	.159	.048	.441	.330
30.	Und	-.151	.112	.200	.460	.368	.304

*Minimum value .392 arbitrarily selected to insure each scale loading at least once.

normative reinforcement on the part of teachers and students in regard to dress and social form. The Orderliness scale is concerned with compulsive environmental organization. In the present analysis, both these scales load on the factor Orderliness, which depicts a school environment excessively concerned with rigid order.

The Intellectual Climate factor has also been modified. All the scales loading on the Stern[1] Intellectual Climate factor load on this factor with the exception of Nurturance. The school environments characterized by intellectual activity in the present study do not include press for dependent, supportive relationships between students and faculty.

The present factor structure compares favorably to those used in environmental descriptions of high schools, colleges, and Peace Corps training institutions.[2] It appears appropriate to call these factors, with little modification, by their original labels.

The HSCI First Order Factors are:

1. Disassociation-Group Life
2. Normative Control
3. Orderliness
4. Intellectual Climate
5. Personal Dignity
6. Individualized Achievement

A description of the contributing scales and the structure of the factors follows:

1. Disassociation-Group Life

The first factor extracted in this analysis is the reflection of Stern's[1] factor, Group Life. It is the mirror image of a highly affiliative, group centered, fun-loving crowd. The environment described is characterized by social detachment, self-isolation, low play, self-consciousness, disassociation, and lack of esprit. One is aware of low environmental sensuality, austerity, and frugality. It appears to picture a typical "institutional" atmosphere. A high positive score on this factor indicates perceptions of high Disassociation and low Group Life.

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[1] Ibid., pp. 251-255.

[2] George G. Stern, R. Cohen, and G. Redleaf, Final Report: Some Psychological Differences Between Peace Corps Training Units and Trainees, USOE Peace Corps Contract No. PC (W) - 273 (Syracuse University, 1966).

Scale Name	Description	Loading
Affiliation	Social detachment, lack of esprit	-.754
Play-Work	Persistently purposeful, task-oriented behavior	-.758
Exhibitionism-Inferiority Avoidance	Social withdrawal, self-consciousness	-.534
Nurturance	Disassociation, indifference to social relationships	-.498
Energy-Passivity	Low activity, unchallenging undemanding school life	-.440
Sensuality-Puritanism	Low environmental comfort, little aesthetic concern, austere atmosphere	-.397

2. Normative Control

Stern[2] describes this factor as a "super-life-sized chrome-plated version of the Brave New World outside." The environment described focuses on training rather than general education. Norms regarding social dress, conduct and dating are apparent. Students and teachers are concerned with looking and acting "right." The school is viewed as a vehicle for upward mobility socializing students in preparation for standardized adult roles. Higher positive scores on this factor indicate group perception of a higher Normative Control.

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[1] Stern, op. cit., 1970, p. 255.

[2] Ibid.

Scale Name	Description	Loading
Practicalness-Impracticalness	Pragmatic vs. theoretical	.696
Sexuality-Prudishness	Environmental encouragement of heterosexual social relationships	.676
Dominance-Tolerance	Normative control through peer coercion	.583
Narcissism	Normative reinforcement of good social form	.435

3. Orderliness

The institution described by this factor stresses a degree of organization and structure which borders on compulsivity. Essentially, it is characterized by bureaucratic aloofness, routinization, predictability and good social form. Moreover, it is clean. Higher positive scores indicate higher environmental press for Orderliness.

Scale Name	Description	Loading
Order-Disorder	Compulsive preoccupation with order	.654
Deference-Restiveness	Respect for authority	.575
Impulsiveness-Deliberation	Impulsive, spontaneous behavior is discouraged	-.547
Narcissism	Normative reinforcement of good social form	.484
Harm Avoidance-Risktaking	Excessive caution required in behavior	.412
Aggression-Blame Avoidance	Students respect each other and school property	-.359

4. Intellectual Climate

This factor accounts for all of the scales loading in Stern's[1] HSCI factor, Intellectual Climate with the exception of Nurturance. The combination of scales loading on this factor suggests a school environment characterized by both aesthetic awareness and social commitment. The items comprising this factor are intended to extract a measure of the quality of the students, staff, program, and plant of a school. Specifically, they are concerned with those scholarly activities pertaining to the humanities and the arts as well as social and physical sciences. Environmental aesthetics, comfort, and consideration are also included. Higher positive scores indicate group perceptions of greater Intellectual Climate.

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[1] Ibid., pp. 251-255.

Scale Name	Description	Loading
Humanities, Social Science	Empirical analysis, aesthetic awareness	.661
Fantasied Achievement	Encouragement to future fame, power	.632
Reflectiveness	Involvement in psychological, spiritual, metaphysical expression	.579
Science	Experimental science emphasis, empirical analysis, reflection, discussion	.518
Ego Achievement	Interest in social action and improvement	.508
Sensuality-Puritanism	Aesthetically positive environment, sensory stimulation and gratification	.494
Understanding	Emphasis on intellectualization, theorizing, problem solving	.460

5. Personal Dignity

This factor describes a school that attempts to maintain an open, objective environment with concern for fairness, assurance and acceptance. The atmosphere encourages autonomy and individuality. There is little administrative coercion, public criticism or humiliation. The atmosphere is described as planned, purposeful and unhostile. There is an opportunity for dependence, affection, personal interest and patience. Higher positive scores are indicative of group perceptions of higher Personal Dignity.

Scale Name	Description	Loading
Objectivity-Projectivity	Teachers open, objective	.807
Abasement-Assurance	Patience, encouragement of student self confidence	-.754
Adaptability-Defensiveness	Encouragement of individuality, defending a position	-.646
Conjunctivity-Disjunctivity	Planned and purposeful atmosphere	.622
Aggression-Blame Avoidance	Students respect each other and school property	-.520
Supplication-Autonomy	Open relationships, genuine concern, personal interest	.441

6. Individualized Achievement

This factor does not reflect a standardized mode of striving for achievement. There is some competition for grades. The predominent loadings are on Counteraction, Emotionality and Change. This differs substantially from Stern's[1] *HSCI* factor loadings on Achievement Standards. That analysis stressed a planned and purposeful atmosphere with normative coercion for social form and rigorous order. The achievement factor in this study indicates a varied and flexible atmosphere with acceptance of intense, open expression. Most important is the opportunity for individuality (Counteraction). This relationship may be interpreted as being supportive of Coleman's[2] thesis of achievement which is related to students' sense of control over destiny. In any event this factor shows a model of achievement orientation which may be indicative of a digression from the traditional school emphasis on standardization. A higher positive score on this factor would indicate group perception of higher Individualized Achievement.

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[1] *Ibid.*, p. 255.

[2] James S. Coleman, et. al., *Equality of Educational Opportunity* (Washington, D.C.: U.S. Department of Health, Education and Welfare, U.S. Government Printing Office, 1966).

Scale Name	Description	Loading
Counteraction	Respect for students' rights, opinion, expression	.582
Emotionality-Placidity	Openness in regard to feelings	.581
Change-Sameness	Variety in regard to people, programs and activities	.424
Achievement	Standards of achievement activities, competition, hard work	.392

HSCI Second Order Factor Analysis

The intercorrelations between the six high school factors shown in Appendix XV clearly demonstrate a two-dimensional second order space. One axis is associated primarily with Normative Control and Orderliness; the other, with Group Life, Intellectual Climate, Personal Dignity and Individualized Achievement. The HSCI principal axis factor matrix is presented in Appendix XVI. The rotated factor loadings are presented in Table 7. The two factor areas account for 65 percent of the first order variance, 42 percent of it in Area I.

The dual factor area structure of the environmental variables began to emerge in the college studies.[1] The second order factor area of the College Characteristics Index which emerged in those studies included the first order factors of Group Life, Intellectual Climate, Personal Dignity and Achievement. The dimensions measured by this area were considered by Stern as relevant to personal growth and development. It was labeled Developmental Press.

A second factor area emerged clearly in the analysis of school organizational climate study[2] and a study of Peace Corps training program.[3] The combined loadings of Impulse Control and Orderliness were of such magnitude and contrast as to suggest a countervailing factor which Stern[4] termed

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[1] Stern, op. cit., 1970, pp. 57-58.

[2] Steinhoff, op. cit., 1966.

[3] Stern, Cohen and Redleaf, op. cit., 1966.

[4] Stern, op. cit., 1970, p. 269.

TABLE 7

HSCI EQUAMAX ROTATION SECOND-ORDER AREA MATRIX

HSCI Factor	Development Press I	Control Press II
1. Disassociation-Group Life	.793	.379
2. Normative Control	-.131	-.847
3. Orderliness	-.001	-.796
4. Intellectual Climate	-.836	-.151
5. Personal Dignity	-.723	.230
6. Individualized Achievement	-.694	-.069

Control Press. The Control factors describe the degree to which organizations stress rigid bureaucratic administrative procedures, encourage social isolation, and restrict individual expression.

The terms Development and Control Press have a degree of value implication. To be consistent with the developing literature of studies using the Environmental Indexes, the terms will be used in this study. The reader should bear in mind that there are elements of Control Press in every environment described as Developmental and elements of Development Press in every environment described as Control. The relationship of these variables is orthogonal not linear. However, the high correlations within the second order factor space suggest it is safe to assume that a high area score on either press dimension would characterize the predominant and overriding organization of the environment.

The HSCI second order areas and the contributing loadings of the first order factors are as follows:

I. Development Press

Factor No.	Description	Loading
4	Intellectual Climate	-.836
1	Disassociation (Group Life)	.793
5	Personal Dignity	-.723
6	Individualized Achievement	-.694

The original factor analysis of the high school data[1] showed the Development Press area consisting of correlations of Group Life, Intellectual Climate, Personal Dignity, Expressiveness and Achievement Standards. The four factors which contribute to second order area space in the present study also deal with those aspects of the environment which are supportive of intellectual and interpersonal considerations. Intellectual Climate, Personal Dignity, and Individualized Achievement are negatively correlated with Disassociation. The scales contributing to the Expressiveness factor which was extracted in Stern's previous analysis are dispersed in this study into the Individualized Achievement factor.

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[1] Stern, op. cit., 1970, pp. 251-255.

The highest loading in the present Development Press area is Intellectual Climate. A high Development Press score would characterize a school environment typified by empirical, analytic, aesthetic interests and activities. Students are encouraged to effect social improvement by means of study, analysis and social action. They are treated openly and objectiviely. Individuality and defense of a position is encouraged. Self responsibility is encouraged. Normative coercion is minimized. There is an opportunity for expression and sufficient variety in programs and activities. A serious and rigorous approach to academic achievement is maintained. The Group Life loading suggests that social relationships are sincere. Students and teachers genuinely care about each other. This is manifested by organized school social activities, school facilities which are attractive, comfortable, and cared for. Lunches in the cafeteria are described as appealing and tasty. The consideration of school property (physical environment, books, facilities) appears in three out of four factors in Development Press.

The weights of the salient loadings on this factor indicate a high negative score would be indicative of higher Development Press.

II. Control Press

Factor No.	Description	Loading
2	Normative control, practicalness	-.847
3	Orderliness, Submissiveness	-.796

School environments characterized by Control Press appear to emphasize training rather than general education goals. Teachers stress the practical uses of their subjects and most students view education as a preparation for earning a good living. Learning to work with others, a characteristic essential for socialization into the world of work, is stressed in this environment. Further normative control is exacted by an administration which encourages a hierarchy of student leaders (Dominance), and good social form and dress (Narcissism). High scale loadings on Sexuality imply press for normative heterosexual relations designed to insure future adoption of standardized adult roles. Impulsive, spontaneous behavior is discouraged and teachers are reported to "go out of their way to make sure that students address them with respect."[1] The faculty maintains its distance and is reported as preoccupied with compulsive organization and petty detail. Students are required to maintain assigned seats. Everyone is "safety-first" conscious and students are anxious to avoid behavior that might be considered overtly or covertly hostile and aggressive. Such behaviors appear to contribute to the efficiency of the social system. School property is reported to be seldom damaged. Washrooms are clean and students emphasize the exercise of general caution in their behavior towards each other and the teachers.

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[1] Item, Stern High School Characteristics Index, see Appendix V.

The High School Culture Factor: Need-Press Relationship

Steinhoff[1] defines the dimensions of a school culture as a composite of the consensual environmental press and the aggregate needs of the cohabitants of the subsystem. The need-press relationship can be identified when the first order factors from both the AI and HSCI are subjected to further factor analysis. To pursue the identification of need-press relationships among high schools the joint-factor statistical procedures used in the college studies[2] were replicated.

In the present study, two correlation matrixes were computed using group mean scores on the AI and HSCI first order factors as variables. One analysis used the combined responses of students in thirteen schools; the other, the responses of twenty-six groups classified by school and academic levels. The intercorrelations between the factors for thirteen schools appear in Appendix XVII; for twenty-six groups, in Appendix XVIII. The iterative principal axis solutions for both these data appears in Appendexes XIX and XX.

When the joint mean AI and HSCI factor scores which were the result of the combined perceptions of high and low ability groups were submitted to equamax rotational procedures, they separated into two distinct clusters (see Table 8). These clusters were identical to those isolated from the separate AI and HSCI factor matrixes (see Tables 5 and 7). They are a clear replication of the factor loadings of the three second order areas of the AI and the two second order areas of the HSCI reported earlier in the chapter.

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[1] Steinhoff, op. cit., 1966.

[2] Stern, op. cit., 1970, pp. 213-216.

TABLE 8

JOINT AI-HSCI EQUAMAX ROTATION FACTOR MATRIX
13 SCHOOLS

AI 1	Achievement Motivation	-.039	-.098	.825	.095	-.147
AI 2	Emotionality	-.189	.078	-.325	-.427	-.416
AI 3	Independence-Dependence	-.168	.091	-.125	.014	.885
AI 4	Unassertiveness-Dominance	-.074	.029	-.358	.806	.119
AI 5	Anti-intellectuality-Intellectuality	-.064	.021	-.813	.264	.056
AI 6	Individuality	-.279	.139	-.176	.214	.723
AI 7	Exertiveness-Submissiveness	-.058	.137	-.448	-.548	.509
HSCI 1	Disassociation-Group Life	-.354	.797	-.017	-.009	.139
HSCI 2	Normative Control	.730	-.140	-.091	-.181	-.327
HSCI 3	Orderliness	.869	.016	.079	.119	-.006
HSCI 4	Intellectual Climate	.128	-.828	.174	-.062	-.067
HSCI 5	Personal Dignity	-.110	-.687	.210	.299	.163
HSCI 6	Individualized Achievement	-.044	-.705	-.083	-.017	-.274

When AI-HSCI means for separate groups within schools were intercorrelated the results are somewhat different. The units of analysis in this case are the composite responses of students as members of high or low academic subgroups within schools. As Table 9 demonstrates, one composite (culture) factor emerges with loadings from both the AI and the HSCI. The personality variables, Emotionality and Individuality, and the environmental variables, Normative Control and Orderliness, load on the same factor but their relationship is inverse. This suggests that groups of students with high scores on the joint need-press factor ascribe characteristics of open expression, non-compulsivity, sensuality, rationality, non-desire for challenge, or commitment to themselves and are likely to be found in organizational settings in high schools which are characterized as openly expressive, non-compulsive, non-conforming, non-vocational and somewhat disorderly.

The results of the present joint AI-HSCI factor analysis in no way replicates the broad dimensionality of the culture factors described by Stern[1] in the environmental studies of the colleges. Five independent culture factors were described: Expressive, Intellectual, Protective, Vocational and Collegiate. The ecological relationship between person and organizational environment was attributed to the reciprocal selection and voluntary participation that is enjoyed by private schools. In the present study one joint need-press factor was extracted from the high school data which strongly resembles the college Expressive Culture. It is appropriate to call it so. The AI and HSCI factors load in the joint analysis as follows:

The High School Expressive Culture Factor

Factor	Description	Loading
HSCI 3	Orderliness	-.834
AI 6	Individuality	.764
HSCI 2	Normative Control	-.753
AI 2	Emotionality	.629

In the Stern[2] analysis the environmental factor Vocational Climate and the personality factors Orderliness, and Applied Interests loaded negatively with the personality factors Expressiveness, Friendliness and Sensuousness. Stern described this culture as a non-work oriented, nonconforming climate peopled by students who are expressive, friendly, non-compulsive and non-vocationally oriented. The colleges with

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[1] Ibid., pp. 205-210.

[2] Ibid., pp. 206-207.

TABLE 9

JOINT AI-HSCI EQUAMAX ROTATION FACTOR MATRIX 26 HIGH AND LOW ABILITY GROUPS

		AI-HSCI I	AI-HSCI II	AI-HSCI III	AI-HSCI IV
AI 1	Achievement Motivation	.244	.829	.041	-.369
AI 2	Emotionality	.629	-.432	-.043	.061
AI 3	Independence-Dependence	.363	-.012	-.031	.875
AI 4	Unassertiveness-Dominance	.251	-.811	-.206	-.312
AI 5	Anti-intellectuality Intellectuality	-.068	-.919	-.036	-.032
AI 6	Individuality	.764	-.057	-.086	.481
AI 7	Exertiveness-Submissiveness	.162	-.082	-.410	.793
HSCI 1	Disassociation-Group Life	.548	-.079	-.721	.185
HSCI 2	Normative Control	-.753	-.137	-.046	-.343
HSCI 3	Orderliness	-.834	-.177	.047	-.240
HSCI 4	Intellectual Climate	-.172	.324	.884	-.018
HSCI 5	Personal Dignity	.455	.435	.604	-.252
HSCI 6	Individualized Achievement	.203	-.241	.790	-.214

high scores on this factor were primarily elite women's colleges, although three outstanding coeducational liberal arts colleges also scored highly. A Catholic women's college occupied the low end of the distribution, along with several other small denominational colleges and two engineering programs. This suggests that extremely low scores on an Expressive culture can be associated with constraint, practicality, and a strong emphasis on vocationalism.

The identification of the colleges with high scores on the Expressive Culture factor could suggest a student body with high socioeconomic status. Although this variable was not considered by Stern, a discussion of differences in high school cultures cannot preclude consideration of student socioeconomic background and the socioeconomic setting of the school. The relationship of these variables will be discussed in the following chapter.

CHAPTER V

RESULTS AND DISCUSSION

Hypothesis One stated there would be a significant relationship between student socioeconomic background characteristics and student personality structure as measured by the Stern Activities Index.

To test this hypothesis, the mean scores on the Activities Index for factors and areas for three groups of students, classified by sex and socioeconomic background characteristics, were subjected to Pearson Product Moment Correlation.

The Relationship of Male Personality Characteristics to Socioeconomic Background

The mean scores and standard deviations for Activities Index factors and areas for three groups of male students, classified by socioeconomic background appear in Appendix XXI. The intercorrelations for AI factors and SES are presented in Table 10. When the correlation coefficients were subjected to tests for significance, three factors and two areas were significant at the .01 level. These relations indicate that male students with higher socioeconomic background characteristics manifest higher Independency needs, Individuality needs, and Exertiveness needs. Male students with lower socioeconomic background characteristics manifest higher Dependency Needs.

The Relationship of Female Personality Characteristics to Socioeconomic Background

The mean scores and standard deviations for Activities Index factors and areas for three groups of female students, classified by socioeconomic background appear in Appendix XXII. The relationships of AI factors to socioeconomic background are presented in Table 11.

TABLE 10

INTERCORRELATIONS OF MALE AI FIRST AND SECOND ORDER FACTOR SCORES AND STUDENT SES (DECIMAL OMITTED)

Factor Abbs	1	2	3	4	5	6	7	I	II	III	SES
1. Mot		-120	-280	-221	-518	-232	-401	347	817	061	081
2. Emo			-146	-349	099	-060	141	064	-123	-743	-099
3. Idp				379	312	689	377	-905	-341	172	-200**
4. Und					392	476	-036	-392	-368	797	053
5. Int						289	217	-340	-917	120	100
6. Inv							356	-880	-303	198	-271**
7. Ext								-604	-334	-438	-204**
I DEP									391	-062	273**
II INT										-052	-030
III EXP											108
SES											

Significance of zero-order correlations
df=240
Approximate values--two-tailed test
*@.05=.138
**@.01=.181

TABLE 11

INTERCORRELATIONS OF FEMALE AI FIRST AND SECOND ORDER FACTOR SCORES AND STUDENT SES (DECIMAL OMITTED)

Factor Abbs	1	2	3	4	5	6	7	I	II	III	SES
1. Mot		-087	-266	147	-533	-114	-510	322	837	117	-078
2. Emo			117	244	029	181	263	-214	-062	-698	-220**
3. Idp				295	150	667	393	-916	-228	003	-212**
4. Und					322	439	-111	-325	-281	789	085
5. Int						177	267	-230	-909	103	128
6. Inv							161	-849	-171	145	-345**
7. Ext								-537	-424	-528	-085
I DEP									307	070	292**
II INT										-009	-121
III EXP											183**
SES											

Significance of zero-order correlations
df=220
Approximate values--two-tailed test
*@.05=.138
**@.01=.181

TABLE 12

TWO WAY ANOVA MALE AI FACTORS AND AREAS BY ABILITY GROUP AND SCHOOL

No	Factor and Area Description	Ability df: 1,213	School df: 12,213	Interaction df: 12,213
1	Achievement Motivation	2.57	1.72	0.71
2	Emotionality	0.00	0.67	0.23
3	Independence-Dependence	5.31*	3.72**	2.16*
4	Unassertiveness-Dominance	2.58	0.95	0.78
5	Intellectuality	11.69**	3.10**	1.26
6	Individuality	26.68**	3.88**	1.74
7	Exertiveness-Submissiveness	11.27**	2.66**	0.75
A1	Dependency Needs	18.98**	4.01**	1.78
A2	Intellectual Orientation	9.24**	2.69**	0.92
A3	Emotional Expression	4.25**	0.78	0.40

df = 1/213 F@ .05=3.89*, F@ .01=6.76**
df = 12/213 F@ .05=1.80*, F@ .01=2.28**

Three factors and two areas were statistically significant at the .01 level. These relations indicate that female students with higher socioeconomic background characteristics manifest higher Emotionality needs, Independence needs, and Individuality needs. Females, like males, of lower socioeconomic background express greater Dependency Needs. Higher SES females manifest higher Emotional Expression. Both males and females of higher socioeconomic backgrounds express high Independence and Individuality needs. The relationships proposed by Hypothesis One appear substantiated at least for three factors and two areas of the Activities Index.

Student Personality Need Characteristics and Ability Group

Hypothesis Two stated there would be significant relationship between students' academic program placement and student personality structure as measured by the Stern Activities Index.

To test this hypothesis, the AI factor and area mean scores of high and low ability groups in thirteen schools were subjected to two-way analysis of variance. Two designs were constructed; one for males, the other for females. The independent variables were ability group and school. The subsequent analyses for males and females indicated significant differences between groups and among schools.

The relationships proposed by Hypothesis Two (for males and females) appear substantiated for at least two of the AI factors: Intellectuality and Individuality.

The Relationship of Male AI Factors to Ability Group and School

The results of a two-way analysis of variance indicates four AI factors are statistically significant for males by ability group: Independence, Intellectuality, Individuality, and Exertiveness. All three AI areas were significant as well: Dependency Needs, Intellectual Orientation and Emotional Expression. The four factors and two of the areas are also significant by school. The interaction of ability group and school is significant for the AI factor Independence. These data are presented in Table 12.

The AI factor and area means and standard deviations for male high and low ability groups by schools appears in Appendix XXIII.

A visual inspection of the groups mean score data suggests that in the main the higher ability groups tend to express greater needs for Independence. The significant interaction score for this variable suggests the directional relationship is not always consistent. In some cases it is reversed. Apparently the only group for which group means on Independence are consistently higher for male higher ability groups are found in the urban areas.

Inspection of the mean scores by ability group indicates higher ability males express greater needs for Intellectuality. Male higher ability groups also express greater needs for Individuality and Exertiveness. This is not surprising considering the significant correlation between Individuality and Exertiveness scores and students' socioeconomic background characteristics.

An inspection of cell means indicates male lower ability groups express greater Dependency Needs. Higher male ability groups manifest a greater Intellectual Orientation and higher Emotional Expression.

The Relationship of Female AI Factors to Ability Group and School

The results of a two-way analysis of variance indicates three AI first order factors are statistically significant by female ability group: Achievement Motivation, Intellectuality, and Individuality. Two AI factor areas, Dependency Needs and Intellectual Orientation are also significant. These data are presented in Table 13.

The AI means and standard deviations for female high and low ability groups by schools appears in Appendix XXIV. Female ability groups appear more homogeneous than males in regard to their mean scores on the Activities Index. That is, unlike males, there is no significant variance in regard to AI scores for females by school. One interaction effect is reported for the AI Independence factor.

An inspection of cell means shows that females in higher ability groups express greater needs in regard to Achievement Motivation. Curiously, ability group does not appear related to expression of Achievement Motivation needs for males as it did for females. Higher ability females also report higher scores on Intellectuality and Individuality than do lower ability females. Females in lower ability groups express higher Dependency Needs.

Females, like males, report a significant interaction

TABLE 13

TWO WAY ANOVA FEMALE AI FACTORS AND AREAS BY ABILITY GROUP AND SCHOOL

No	Factor and Area Description	Ability df: 1,193	School df: 12,193	Interaction df: 12,193
1	Achievement Motivation	4.17*	1.56	0.817
2	Emotionality	3.80	2.31	1.40
3	Independence-Dependence	0.75	1.49	1.99*
4	Unassertiveness-Dominance	0.32	0.82	1.54
5	Intellectuality	8.15**	1.06	1.00
6	Individuality	14.21**	1.78	1.57
7	Exertiveness-Submissiveness	0.15	0.86	1.67
A1	Dependency Needs	5.48*	1.59	1.77
A2	Intellectual Orientation	8.32**	1.49	0.99
A3	Emotional Expression	1.81	1.06	1.42

df = 1/193 F@ .05=3.89*, F@ .01=6.76**
df = 12/193 F@ .05=1.80*, F@ .01=2.28**

of ability group and school for the Independency factor. In the main, higher ability females tend to report higher scores on Independence. In some schools, however, the relationship is reversed. There does not appear to be any consistent socioeconomic or demographic characteristics of the student groups or schools which would contribute to this reversal.

Differences in Student Personality Structure

Stern[1] suggested that sex was a variable in differentiating the aggregate needs of one student body from another. Groups of male college students were found to exceed females in all aspects of the Achievement Orientation area. Both sexes approached each other on Intellectual Interests, Orderliness, and Narcissism. However, college female groups reported higher scores on factors associated with Closeness, Sensuousness, and Expressiveness.

The present study was not concerned with differences in self-descriptions of needs between males and females. It examined the needs responses of males and females separately in relation to the socioeconomic and ability group variables.

Significant differences were identified between student socioeconomic background and personality variables. Both male and female students of higher socioeconomic background manifested significantly higher needs for those activities characteristic of Independence and Individuality. An interpretation of the Independence factor can describe the students as self-reliant, disassociated from group interaction, rather audacious and detached from group norms concerning dress or social form. The consistently negative scores on Nurturance, Narcissism, and Affiliation suggest that they are unsupportive of others and perhaps unsupportive of themselves as well. This combination could suggest that they are determined to be independent and individualistic. The Individuality factor describes these youth as characterized by rational views, somewhat disorganized in behavior, lacking aspiration for fame and power through personal endeavor and with high disdain for what might appear self-centered, egotistical behavior.

However, we see in this study that Achievement Motivation and Intellectual Interests do not typify youth of upper middle socioeconomic background. In effect they have not internalized, or more important, may not wish to internalize, the intrinsic motives that have been shown to be important determinants of productive, work-related behavior. These intrinsic motives have been identified by McClelland[1] and Atkinson[2] as: the need for achievement, power, and affiliation. These personality variables do not appear significantly characteristic of students of higher socioeconomic background in this study.

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[1] George G. Stern, People in Context: Measuring Person-Environment Congruence in Education and Industry (New York: John Wiley & Sons, Inc., 1970).

Higher ability students report higher self-estimates of needs for Intellectuality and Individuality. Consistent with what may be the popular peer group norms of appearing cool and unmotivated by materialism, higher ability group males do not report higher needs described as Achievement Motivation. Females in higher ability groups do report higher self reports of needs for Achievement. This may be due to sexist distinctions which, when subtly manifested in our society, may preclude the admittance of only the most aggressive, achievement oriented females to the higher ability groups.

Students of lower socioeconomic background and lower ability can be characterized as more dependent, submissive, and socially conforming. They seek group interaction and support, and prefer control over their immediate environment. A more orderly and less chaotic life is desirable to them. Conformity may be regarded as a means to upward mobility for them as they report high concern for normative behavior concerning dress, appearance and dating.

The Relationship of Student Socioeconomic Background Characteristics to Perceptions of the School Environment

Hypothesis Three stated there would be a significant relationship between student socioeconomic background characteristics and perception of the school environment as measured by the High School Characteristics Index.

The mean scores on the High School Characteristics

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[1] David C. McClelland, The Achieving Society (Princeton: D. Van Nostrand Co., 1961).

[2] J. W. Atkinson, Introduction to Motivation (Princeton: D. Van Nostrand Co., 1964).

Index for factors and areas for three groups of students, classified by socioeconomic background characteristics were subjected to Pearson Product Moment Correlation. The means and standard deviations of this analysis appear in Appendix XXV.

When the correlation coefficients were subjected to tests of significance, three of the six first order factors and both areas of the High School Characteristics Index appear related to students' socioeconomic background characteristics. These interrelationships are presented in Table 14.

The relations indicate that students with higher socioeconomic background characteristics perceive their high school atmospheres as lower in Group Life. Lower SES students perceive greater press for Normative Control and Orderliness. Development Press appears statistically significant with student SES at the .05 level. Lower SES students report perceptions of higher Control Press greater than the .01 level.

This analysis indicates that the relationships proposed by Hypothesis Three appear substantiated for at least three of the HSCI factors: Group Life, Normative Control and Orderliness.

Student Ability Group and Perceptions of the School Environment

Hypothesis Four stated there would be a significant relationship between students' academic program placement and perception of their school environment as measured by the High School Characteristics Index.

The HSCI factor and area scores for high and low ability groups in thirteen schools were subjected to a two-way analysis of variance. The means and standard deviations for each of the twenty-six subgroups appear in Appendix XXVI.

The subsequent analysis indicate significant differences between high and low ability groups and among schools. These are presented in Table 15.

The main effect treatment by ability group is significant for five of the HSCI factors. These results indicate that the relationships proposed by Hypothesis Four are substantiated for: Group Life, Normative Control, Orderliness, Personal Dignity and Individualized Achievement. The high F ratios on Group Life and Orderliness suggest that student

TABLE 14

INTERCORRELATIONS OF HSCI FIRST AND SECOND ORDER FACTOR SCORES AND STUDENT SES (DECIMAL OMITTED)

	Scale Abbs	1	2	3	4	5	6	I	II	SES
1	Group Life		-375	-245	-665	-428	-459	840	370	-180**
2	Normative Control			428	189	-092	187	-200	-858	136**
3	Orderliness				119	005	-011	-130	-831	234**
4	Intellectual Clim					453	457	-856	-184	063
5	Personal Dignity						281	-744	054	021
6	Indiv Achievement							-610	-109	060
I	Development Press								197	-105*
II	Control Press									-217**
SES										

Significance of zero-order correlations
df=460
Approximate values--two-tailed test
*@.05=.093
**@.01=.122

TABLE 15

TWO WAY ANOVA HSCI FACTORS AND AREAS BY ABILITY GROUP AND SCHOOL

No	Factor and Area Description	Ability df: 1,435	School df: 12,435	Interaction df: 12,435
1	Level of Group Life	26.44**	4.54**	1.53
2	Normative Control	12.33**	6.72**	1.15
3	Orderliness	23.99**	6.96**	3.45**
4	Intellectual Climate	3.46	2.85**	2.03*
5	Personal Dignity	8.17**	4.46**	0.74
6	Individualized Achievement	4.17*	1.64	1.31
A1	Development Press	3.06	4.10**	1.65
A2	Control Press	26.15**	9.31**	2.51**

df = 1/435 F@ .05=3.86*, F@ .01=6.70**
df = 1/435 F@ .05=1.78*, F@ .01=2.23**

ability group is particularly germane to perception of these dimensions of school life.

An inspection of the data presented in Appendix XXVI suggests higher ability groups report appreciably lower levels of Group Life than do lower ability groups. Lower ability groups perceive higher press for Orderliness and Normative Control. Higher ability groups also tend to perceive the school environment as being characterized by higher dimensions of student Personal Dignity.

No consistent pattern is apparent with respect to high and low ability group differences for the Individualized Achievement factor. An inspection of cell means indicates that in at least three schools the lower ability group perceives higher press on this factor.

The main effect treatment for schools is significant at the .01 level for all of the HSCI factors except Intellectual Climate. Perception of school climate as measured by Development and Control Press is significantly different among schools.

For the factors Orderliness and Intellectual Climate, ability group and school interact indicating that in some cases the relationship of the variables is influenced by a combination of the independent variables. Evidently academic subgroups within schools do not always agree as to the characteristics of their schools and when analyzed as separate higher and lower ability group responses, the direction of the disagreement is not always consistent.

The Relationship of School Characteristics to the Socioeconomic Setting of the School

Hypothesis Five stated there would be a significant relationship between the socioeconomic setting of the school and students' perception of their school environment as measured by the High School Characteristics Index.

The variables under consideration in this analysis are concerned with characteristics of high schools as they relate to broad socioeconomic classifications of community context.

The HSCI scale, factor and area scores for students in schools classified by three levels of socioeconomic setting were subjected to analysis of variance. The classifications were upper middle, middle middle and lower middle. The treatment main effect F ratio between groups was significant at the .05 level for eight HSCI scales, three factors and two areas.

Table 16 reports the results of this analysis which confirms the relationships proposed by Hypothesis Five. The means and standard deviations of the significant variables appear in Appendix XXVII. The HSCI factors of Orderliness, Intellectual Climate and Personal Dignity are related to the socioeconomic setting of the school.

The relationships presented in Appendix XXVII clearly suggest that higher SES high schools are characterized by higher encouragement of spontaneous behavior, respect for students' rights, opinion and expression, and emphasis on intellectualization, theorizing and problem solving. Upper middle schools also report scores which indicate the school atmosphere to be more comfortable and attractive than the other schools. Lower SES high schools are perceived as highly varied in regard to people, programs and activities but with more emphasis on constraint, order and respect for authority than upper middle or middle middle schools. Abasement, which refers to press for self-effacing behavior is highest at schools classified as middle middle.

Significant differences were reported between SES levels for the school environmental factors of Orderliness, Intellectual Climate and Personal Dignity. An inspection of cell means suggests that lower middle schools tend to be characterized by greater press for Orderliness. Upper middle schools tend to be characterized by greater Intellectual Climate. The Personal Dignity dimensions of upper and lower-middle schools appear about the same. The lowest Personal Dignity mean score in this study is associated with the middle middle SES group.

The interpretation of mean scores of the HSCI areas suggests that higher SES schools perceive higher dimensions of Development Press and lower SES schools higher dimensions of Control Press.

Differences in the Normative Climates of High Schools

When we examine the descriptions of school environments which include student perceptions of both school activities and the characteristics of other students in the school, students in schools classified by higher socioeconomic settings report higher press for Intellectual Climate. This suggests that schools in upper middle settings are perceived as maintaining an educational atmosphere associated with the development of social and intellectual leadership in their students. This finding supports the extensive research which describes the importance of the social milieu in regard to educational

TABLE 16

ANOVA SIGNIFICANT HSCI SCALES, FACTORS AND AREAS BY THREE LEVELS SCHOOL SES

No	Description	F(df: 2,459)
S1	Abasement-Assurance	3.596*
S7	Purposeful-Aimless	5.887**
S8	Counteraction-Students' rights	6.862**
S9	Deference-Assertiveness	9.912**
S18	Impulsivity-Deliberation	11.317**
S22	Order-Disorder	10.205**
S27	School Plant Atmosphere	18.000**
S30	Understanding, Intellectualism	8.310**
F3	Orderliness	15.554**
F4	Intellectual Climate	3.221*
F5	Personal Dignity	3.725*
AI	Development Press	3.056*
AII	Control Press	8.188**

df 2/459 @.05=3.02*
@.01=4.66**

/

outcomes.

The normative climates of schools in this study which are characterized by different socioeconomic settings are also different in regard to Orderliness and Control press.

Friedenberg[1] observed that schools regardless of social or demographic conditions reflect an atmosphere of control, distrust and punishment. Contrary to this view, students of lower socioeconomic background, lower socioeconomic school setting and lower ability group report significantly higher press for Normative Control and Orderliness. These school environments are characterized as emphasizing training rather than general education activities. Typical of these environments are rigid social norms which may be useful in socializing students in preparation for standardized adult roles but are questionable in terms of intellectual development. The organizational structure of these schools is characterized by bureaucratic aloofness. Routinization, predictability and good social form are the predominant environmental characteristics.

Stern's[2] observation that specific types of colleges vary with regard to intellectual versus vocational thrusts appears to apply to classifications of high schools by socioeconomic setting and to subgroups of academic ability within high schools as well. The normative climates perceived by students in schools of lower socioeconomic setting and in lower ability groups suggests greater emphasis on training than intellectuality.

The analysis of normative high school climates by broad classification of the socioeconomic setting of the school brought an unanticipated relationship into view. Students in communities classified socioeconomically as middle middle, rather than lower middle, report significantly lower scores on the dimension of school atmosphere characterized as Personal Dignity. The school, as they describe it, is not objective, assuring, or accepting. The teachers and administrators are reported to use means of public criticism, sarcasm and humiliation for purposes of social coercion. This sense of disenfranchisement would support the recent contentions of Sexton[1] and Coles[2] that the middle-middle class (the *silent majority*) suffers many ills by virtue of their non-extreme social position.

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[1] Edgar Z. Friedenberg, "The Modern High School: A Profile," Commentary, XXXVI (November, 1963), pp. 373-380.

[2] Stern, op. cit., 1970, pp. 56-58.

Students in higher academic program groups across schools report a significantly higher self description of *needs* for Intellectuality. Yet, perceptions of school Intellectual Climate was not related to ability group placement. Perceptions of higher Intellectual Climate varied significantly among schools. Higher *press* for Intellectual Climate were sometimes reported by the lower ability groups. When the data are analyzed school by school students in higher ability groups tend to report that they are not challenged intellectually by the curriculum provided in their high schools. When the data are analyzed by three broad classifications of socioeconomic setting schools located in communities designated as upper-middle report significantly higher *press* for Intellectual Climate.

High School Need-Press Relationships

Hypothesis Six stated there would be a significant relationship between students' personality structure as measured by the *Stern Activities Index* and perceptions of school environment as measured by the *High School Characteristics Index* for academic ability groups among schools.

To test this hypothesis it was first necessary to extract a *culture* factor from the high school data. When the present data was separated into twenty-six groups classified by school and academic level one factor loaded on both *needs* and *press* variables. The personality variables Emotionality and Individuality loaded negatively with the environmental variables Normative Control and Orderliness. The factor was termed the High School Expressive Culture.

In order to replicate Stern's[3] procedures in representing *culture* descriptions it is necessary to compute separate scores for males and females. The number of subjects in ability subgroups in the current sample (see Appendix I) was too small to permit an adequate culture analysis school by school.

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[1] Patricia Cayo Sexton and Brendan Sexton, *Blue Collars and Hard Hats: The Working Class and the Future of American Politics* (New York: Random House, 1971).

[2] Robert Coles, "Understanding White Racists," *The New York Review of Books*, XVII (December, 1971), pp. 12-15.

[3] Stern, *op. cit.*, 1970, p. 206.

As one of the purposes of this study was to test the application of the construct of joint need-press relationships to high school populations, it was decided to compute culture scores for males and females in the three classifications of school socioeconomic setting and student high and low ability groups. In this manner, two (one for males and one for females) two-way analysis of variance designs were constructed. The means and standard deviations for the three measures of school setting and high and low ability groups for males and females separately appear in Appendix XXVIII.

The subsequent analysis indicated significant differences between high and low ability groups and among schools. Tables 17 and 18 report the results which confirm the relationships proposed by Hypothesis Six.

An inspection of cell means indicates significant need-press interrelationships in higher ability groups in schools of higher socioeconomic setting. This suggests that brighter, more affluent youth are likely to characterize themselves as open, expressive, and nonconforming and are likely to be found in a school atmosphere which is open, expressive, and nonconforming. Apparently, these students have found ecological niches in their school experience.

AI and HSCI Factor Standard Scores for the Current Sample

To provide a simplified presentation of the data for educational administrators, staff or students, standard scores were computed for the AI and HSCI factors. By means of these standard scores, the profile of one school or group can be compared with the profile of any other school or group. It can also be compared with the profile of all the schools or groups in terms of its relative position within this sample.

The present study is directed towards a contemporary description of high schools and students in a metropolitan area. Although the current sample was neither randomly drawn nor from a national sample there is no reason to consider it unique. The means and standard deviations for the AI and HSCI data from the current sample appear in Appendixes XXIX and XXXI.

Table 19 presents a summary of the HSCI new factor standard scores for the thirteen sample schools. These are the result of the combined responses of high and low ability groups within each school. The scores hover about the mean

TABLE 17

TWO WAY ANOVA CULTURE FACTOR FOR MALES BY THREE LEVELS SCHOOL SES AND ABILITY GROUP

Factor Description	SES df: 2/233	Ability df: 1/233	Interaction df: 2/233
Expressive Culture	8.17	26.08	1.25

df 2/233 F@ .01=4.71
df 1/233 F@ .01=6.76

TABLE 18

TWO WAY ANOVA CULTURE FACTOR FOR FEMALES BY THREE LEVELS SCHOOL SES AND ABILITY GROUP

Factor Description	SES df: 2/211	Ability df: 1/211	Interaction df: 2/211
Expressive Culture	7.92	23.04	0.37

df 2/211 F@ .01=4.71
df 1/211 F@ .01=6.76

TABLE 19

HSCI FACTOR AND AREA STANDARD SCORE MEANS FOR THIRTEEN SCHOOLS[a]

			DEVELOPMENT PRESS		
School Number	N	Group Life[b] 1	Intellectual Climate 4	Personal Dignity 5	Individualized Achievement 6
121	40	-0.43	0.20	-0.48	0.36
131	47	0.16	0.29	0.82	0.51
132	34	0.51	0.53	0.60	-0.06
211	24	1.17	1.05	0.90	-0.15
212	38	-0.58	-0.49	-0.61	-0.09
221	48	-0.90	-0.48	-0.66	0.36
222	35	1.32	-0.18	0.20	0.17
231	35	-0.45	-0.46	-0.78	-0.56
232	38	-0.69	-1.14	-0.34	-0.92
311	33	0.80	0.25	-0.22	-0.11
312	31	0.18	0.77	0.38	0.24
313	24	0.02	0.50	1.38	0.84
321	35	-0.19	-0.04	-0.31	-0.62

$x=0$, s.d.=2

[a] Norms based on 462 eleventh year students from schools in the New York metropolitan area.

[b] The directionality of these scores has been changed in order to facilitate interpretation. The factor and area titles listed reflect the modification indicated by score reversal.

TABLE 19--Continued

CONTROL PRESS			
Normative Control 2	Orderliness 3	Development Press[b] I	Control Press[b] II
-0.44	-0.25	-0.19	-0.41
-0.51	0.64	0.56	0.05
0.51	0.52	0.59	0.61
-0.29	-0.34	1.12	-0.37
0.16	-0.90	-0.63	-0.42
-0.26	-0.32	-0.68	-0.35
1.59	1.19	0.51	1.66
0.49	0.69	-0.72	0.70
0.42	0.85	-0.96	0.74
1.06	0.55	0.27	0.97
-0.60	-0.72	0.53	-0.78
-1.73	-1.38	0.84	-1.86
-0.73	-1.17	0.31	-1.12

and substantiate Stern's[1] contention that undifferentiated sampling tends to obscure the distinctive characteristics of the school as they appear to the various subgroups.

The *HSCI* standard scores for high and low ability groups in each of the thirteen schools appear in Table 20. Although the sample scores again appear skewed about the mean, rather substantial differences between perceptions of school environmental characteristics for high and low ability groups are apparent.

The *AI* factor standard scores of the current sample for schools and for ability groups within schools, treated separately by sex, are presented in Tables 21 through 24. An inspection of Tables 21 and 22 shows greater variation in certain student personality characteristics among some schools than others. Tables 23 and 24 present the *AI* male and female standard scores by ability groups within schools. Distinct differences in the self estimates of *needs* between subgroups is also apparent.

Some Differences in High School Climates

The concepts of Development and Control Press have emerged from investigations of the interaction of person and environment in college settings.[2] The former dimension is suggestive of growth enhancing environmental processes potentially conducive to self-actualization and personal development. The latter dimension pertains to pervasive norms which pertain to institutional maintenance and in themselves are antithetical to personal development. Four environmental characteristics tend to be associated with Development Press: (1) stimulating intellectual experience, (2) maximized personal responsibility, (3) high achievement standards, and (4) friendly and cooperative group life. Control Press tends to be associated with two environmental characteristics: (1) impulse control and (2) orderliness.

The present study of metropolitan high schools also extracted two second order areas for the environmental characteristics instrument (*HSCI*) which separate into two distinct dimensions. They can be referred to easily as Development and Control Press. However, the relationship of scale loadings contributing to the Development Press area suggests a new configuration which deemphasizes achievement standardization as

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[1] *Ibid*., p. 261

[2] *Ibid*.

TABLE 20

HSCI FACTOR AND AREA STANDARD SCORE MEANS FOR 26 HIGH AND LOW ABILITY GROUPS[a]

High and Low Ability Group	N	Group Life[b] 1	DEVELOPMENT PRESS Intellectual Climate 4	Personal Dignity 5	Individualized Achievement 6
1211	25	-0.62	0.37	-0.26	-0.62
1212	15	-0.11	-0.08	-0.84	-0.62
1311	25	-0.17	-0.03	1.40	0.23
1312	21	0.54	0.65	0.13	0.83
1321	21	0.18	0.30	0.78	-0.36
1322	13	1.05	0.90	0.31	0.41
2111	14	0.60	1.10	1.41	0.20
2112	10	2.00	1.00	0.20	-0.63
2121	18	-0.97	-0.63	-0.39	-0.63
2122	20	-0.23	-0.36	-0.81	0.40
2211	36	-1.14	-0.42	-0.38	0.44
2212	12	-0.16	-0.66	-1.50	0.11
2221	15	1.79	0.79	0.88	0.35
2222	20	0.96	-0.90	-0.30	0.04
2311	20	-0.55	-0.36	-0.63	-0.56
2312	15	-0.31	-0.60	-0.99	-0.54
2321	27	-1.12	-1.77	-0.30	-1.32
2322	11	0.38	0.40	-0.42	0.08
3111	14	0.55	0.06	0.09	-0.21
3112	12	0.28	0.38	-0.46	-0.04
3121	19	-0.66	-0.27	0.60	0.07
3122	13	1.51	1.56	0.02	0.50
3131	13	-0.82	0.08	1.20	0.22
3132	11	0.92	1.00	1.58	1.58
3211	21	-0.92	0.49	-0.53	-1.22
3212	13	0.90	0.64	0.02	0.27

x=0, s.d.=2

[a] Norms based on 462 eleventh year students from thirteen schools in the New York metropolitan area.

[b] The directionality of these scores has been changed in order to facilitate interpretation. The factor and area titles listed reflect the modification indicated by score reversal.

TABLE 20--Continued

CONTROL PRESS			
Normative Control	Orderliness	Development Press[b]	Control Press[b]
2	3	I	II
-0.73	-0.25	-0.07	-0.59
0.05	-0.25	-0.40	-0.11
-1.07	0.15	0.50	-0.58
0.11	1.20	0.62	0.75
0.25	-0.21	0.41	0.03
0.93	1.70	0.90	1.54
-0.54	-1.31	1.18	-1.08
0.05	1.02	1.04	0.61
-0.17	-0.61	-0.84	-0.46
0.45	-1.17	-0.45	-0.38
-0.32	-0.67	-0.63	-0.58
-0.08	0.72	-0.85	0.36
1.63	1.50	1.32	-1.87
1.55	0.96	-0.10	1.51
0.82	0.72	-0.66	0.92
0.05	0.65	-0.80	0.40
0.07	0.71	-1.40	0.45
1.26	1.20	0.14	1.47
0.98	0.06	0.21	0.64
1.12	0.92	0.31	1.22
-1.37	-1.97	0.11	-1.97
0.62	1.25	1.21	1.10
-1.97	-1.27	0.23	-1.95
-1.44	-1.51	1.57	-1.75
-1.24	-1.65	-0.92	-1.70
0.04	-0.46	0.61	-0.24

TABLE 21

MALE AI FACTOR AND AREA STANDARD SCORE MEANS FOR THIRTEEN SCHOOLS[a]

		DEPENDENCY NEEDS			INTELLECTUAL ORIENTATION	
School Number	N	Dependence[b] 3	Normative Orientation[b] 6	Submissiveness[b] 7	Achievement Motivation 1	Intellectuality[b] 5
121	26	0.49	0.57	-0.45	-0.22	0.65
131	20	0.93	0.94	0.59	0.73	0.58
132	20	1.52	1.08	1.03	0.50	1.11
211	18	-1.03	-0.18	-0.28	0.56	0.73
212	17	-0.61	-0.52	-0.80	-0.03	0.07
221	16	-1.25	-1.43	-1.74	-1.78	-0.94
222	13	0.15	-0.46	0.89	-0.35	-1.09
231	20	0.04	0.55	-0.19	-0.34	-1.06
232	21	-0.57	-0.69	-0.43	-0.10	-0.35
311	21	0.22	0.59	-0.06	-0.13	-0.34
312	21	-0.06	-0.21	0.43	0.47	0.94
313	10	-1.40	-1.43	1.19	0.12	-0.76
321	17	0.33	-0.21	0.55	0.19	-0.72

x=0, s.d.=2

[a] Norms based on 239 eleventh year male students from schools in the New York metropolitan area.

[b] The directionality of these scores has been changed in order to facilitate interpretation. The factor and area titles listed reflect the modification indicated by score reversal.

TABLE 21--Continued

EMOTIONAL EXPRESSION					
Assertiveness[b] 4	Exertiveness 7	Emotionality 2	Dependency Needs I	Intellectual Orientation II	Emotional Expression[b] III
-0.18	0.45	-0.46	0.38	0.33	0.05
-0.17	-0.59	-0.41	1.04	0.73	-0.30
-0.16	-1.03	-0.35	1.50	0.98	-0.43
-0.63	0.28	-0.22	-0.67	0.75	0.38
-0.06	0.80	0.84	-0.74	0.03	0.72
0.82	1.74	0.01	-1.70	-1.46	0.11
0.29	-0.89	0.48	0.10	-0.89	-0.26
0.25	0.19	0.55	0.21	-0.87	0.18
0.35	0.43	-0.30	-0.70	-0.29	-0.21
-0.17	0.06	0.29	0.35	-0.29	0.27
-0.28	-0.43	0.04	-0.01	0.85	0.04
0.98	-1.19	-0.13	-1.03	-0.46	-1.09
-0.32	-0.55	-0.01	0.22	-0.39	0.00

TABLE 22

FEMALE AI FACTOR AND AREA STANDARD SCORE MEANS FOR THIRTEEN SCHOOLS[a]

		DEPENDENCY NEEDS			INTELLECTUAL ORIENTATION	
School Number	N	Dependence[b] 3	Normative Orientation[b] 6	Submissiveness[b] 7	Achievement Motivation 1	Intellectuality[b] 5
121	14	-0.60	-0.31	-0.40	-0.30	0.05
131	26	-0.07	0.62	0.03	-0.56	-0.80
132	14	1.17	1.53	0.15	0.89	0.83
211	6	-0.39	-0.05	-0.61	-0.33	-0.12
212	20	-0.01	-0.37	0.45	0.83	0.18
221	32	-0.10	-0.52	-0.35	0.06	0.66
222	22	1.07	0.58	0.96	0.52	0.09
231	15	-0.36	-0.26	-0.73	-0.55	-0.86
232	17	-0.22	-0.23	0.10	0.11	-0.15
311	12	0.49	0.47	-0.08	-1.40	-0.84
312	11	0.49	0.51	0.40	0.75	0.87
313	14	-0.90	-1.36	-0.31	-0.01	-0.55
321	16	-0.63	-0.36	-0.22	-0.33	0.38

x=0, s.d.=2

[a] Norms based on 220 eleventh year female students from schools in the New York metropolitan area.

[b] The directionality of these scores has been changed in order to facilitate interpretation. The factor and area titles listed reflect the modification indicated by score reversal.

TABLE 22--Continued

EMOTIONAL EXPRESSION					
Assertiveness[b] 4	Exertiveness 7	Emotionality 2	Dependency Needs I	Intellectual Orientation II	Emotional Expression[b] III
0.56	0.40	0.24	-0.55	-0.11	0.60
-0.75	-0.03	-1.05	0.27	-0.79	-0.97
0.34	-0.15	-1.68	1.35	0.98	-0.60
1.47	0.61	1.64	-0.38	-0.24	1.90
0.18	-0.45	-0.48	-0.06	0.53	-0.25
0.08	0.35	0.44	-0.39	0.46	0.37
0.32	-0.96	-0.02	1.06	0.31	-0.13
-0.72	0.73	-0.45	-0.50	-0.83	-0.42
-0.18	-0.10	0.67	-0.19	-0.04	0.16
-0.01	0.08	0.62	0.44	-1.23	0.30
0.45	-0.40	-0.53	0.59	0.93	-0.09
0.06	0.31	1.38	-1.17	-0.36	0.77
-0.46	0.22	0.62	-0.54	0.09	0.06

TABLE 23

MALE AI FACTOR AND AREA STANDARD SCORE MEANS FOR 26 HIGH AND LOW ABILITY GROUPS[a]

		DEPENDENCY NEEDS			INTELLECTUAL ORIENTATION	
High and Low Ability Group	N	Dependence[b] 3	Normative Orientation[b] 6	Submissiveness[b] 7	Achievement Motivation 1	Intellectuality[b] 5
1211	15	0.38	0.13	-0.90	0.15	1.06
1212	11	0.65	1.18	0.15	-0.74	0.10
1311	12	0.75	0.29	0.24	1.08	0.59
1312	8	1.22	1.92	1.11	0.21	0.57
1321	12	1.24	0.36	1.32	0.90	1.43
1322	8	1.95	2.16	0.59	-0.10	0.62
2111	9	-2.52	-2.49	-0.97	0.35	0.79
2112	9	0.45	2.13	0.41	0.78	0.67
2121	11	-1.06	-1.03	-1.19	-0.28	0.39
2122	6	0.22	0.40	-0.10	0.42	-0.54
2211	9	-1.21	-1.59	-2.09	-1.44	-0.23
2212	7	-1.29	-1.23	-1.28	-2.23	-2.43
2221	6	0.30	-0.85	1.13	-0.37	0.37
2222	7	0.02	-0.12	-0.69	-0.33	-2.34
2311	11	0.58	0.59	-0.25	0.30	-0.44
2312	9	-0.62	0.51	-0.15	-1.12	-1.81
2321	16	-0.62	-0.86	-0.67	0.15	-0.12
2322	5	-0.44	-0.16	0.36	-0.48	-1.11
3111	10	0.03	0.03	-1.20	-0.61	-0.91
3112	11	0.30	1.10	0.99	0.30	0.18
3121	14	0.03	-0.44	0.10	1.05	1.22
3122	7	-0.25	0.27	1.08	-0.69	0.37
3131	5	-3.16	-2.10	0.45	0.40	-0.63
3132	5	0.36	-0.76	1.92	-0.17	-0.89
3211	10	0.43	-0.59	0.22	0.22	-0.48
3212	7	0.19	0.35	1.02	0.30	-1.06

x=0, s.d.=2

[a] Norms based on 239 eleventh year male students from thirteen high schools in the New York metropolitan area.

[b] The directionality of these scores has been changed in order to facilitate interpretation. The factor and area titles listed reflect the modification indicated by score reversal.

TABLE 23--Continued

EMOTIONAL EXPRESSION					
Assertiveness^b 4	Exertiveness 7	Emotionality 2	Dependency Needs I	Intellectual Orientation II	Emotional Expression^b III
0.76	0.90	-0.54	0.01	0.78	0.52
-0.61	-0.15	-0.35	0.88	-0.28	-0.60
0.28	-0.24	-0.06	0.57	0.90	0.06
0.00	-1.11	-0.94	1.74	0.48	-0.84
0.07	-1.32	-0.60	1.12	1.38	-0.71
0.29	-0.59	0.03	2.08	0.37	-0.01
0.17	0.97	-0.32	-2.61	0.70	0.29
1.10	-0.41	-0.13	1.27	0.81	0.47
0.10	1.19	0.68	-1.29	0.14	0.81
-0.02	0.10	1.15	0.26	-0.16	0.57
0.02	2.09	0.21	-1.85	-0.52	0.85
-1.90	1.28	-0.24	-1.52	-2.68	-0.84
0.59	-1.13	-0.04	0.06	0.08	-0.05
-1.04	0.69	0.92	0.14	-1.73	-0.44
0.03	0.23	0.65	0.49	-0.16	0.41
-0.59	0.15	0.43	-0.13	-1.74	-0.10
-0.12	0.67	-0.32	-0.86	-0.07	0.01
-1.11	-0.36	-0.23	-0.20	-0.97	-0.93
-0.20	1.20	0.38	-0.28	-0.90	0.49
0.51	-0.99	0.22	0.93	0.26	0.07
0.50	-0.10	0.13	-0.15	1.31	0.33
-0.14	-1.08	-0.14	0.27	-0.07	-0.54
-1.17	-0.45	-0.02	-2.40	-0.24	-0.89
-0.80	-1.92	-0.23	0.34	-0.68	-1.28
0.48	-0.22	0.11	0.01	-0.27	0.27
0.08	-1.02	-0.19	0.51	-0.57	-0.40

TABLE 24

FEMALE AI FACTOR AND AREA STANDARD SCORE MEANS FOR 26 HIGH AND LOW ABILITY GROUPS[a]

		DEPENDENCY NEEDS			INTELLECTUAL ORIENTATION	
High and Low Ability Group		Dependence[b]	Normative Orientation[b]	Submissiveness[b]	Achievement Motivation	Intellectuality[b]
	N	3	6	7	1	5
1211	10	-1.35	-1.00	-1.27	-0.37	-0.20
1212	4	1.27	1.40	1.75	-0.12	0.68
1311	13	0.21	0.51	0.26	0.57	-0.14
1312	13	-0.34	0.72	-0.20	-1.68	-1.47
1321	9	0.99	1.36	-0.61	0.53	0.88
1322	5	1.51	1.84	1.52	1.54	0.76
2111	5	-0.02	-0.57	-0.58	-1.20	0.06
2112	1	-2.33	2.55	-0.76	-1.35	-1.02
2121	6	-0.06	-0.69	1.45	1.88	1.47
2122	14	0.02	-0.24	0.02	0.38	-0.37
2211	27	-0.17	-0.73	-0.32	0.20	1.02
2212	5	0.27	0.61	-0.49	-0.67	-1.25
2221	9	0.80	0.11	1.37	1.35	1.03
2222	13	1.26	0.90	0.68	-0.05	-0.57
2311	9	0.20	-0.15	-0.66	-0.19	-0.68
2312	6	-1.21	-0.43	-0.84	-1.09	-1.14
2321	11	-1.11	-1.00	-0.60	-0.23	0.32
2322	6	1.41	1.19	1.37	0.75	-1.02
3111	4	0.29	-0.32	1.64	-0.12	0.97
3112	9	0.12	0.76	-0.71	-2.00	-1.54
3121	5	0.72	-0.46	0.15	0.74	0.34
3122	6	0.31	1.32	0.61	0.75	1.32
3131	8	-0.24	-0.61	-0.19	0.07	-0.55
3132	6	-1.78	-2.35	-0.46	-0.12	-0.55
3211	11	-1.47	-1.31	-0.22	-0.20	0.62
3212	5	1.21	1.74	-0.21	-0.61	-0.13

x=0, s.d.=2

[a] Norms based on 220 eleventh year female students from thirteen schools in the New York metropolitan area.

[b] The directionality of these factor scores has been changed in order to facilitate interpretation. The factor and area titles listed reflect the modification indicated by score reversal.

TABLE 24--Continued

EMOTIONAL EXPRESSION					
Assertiveness^b	Exertiveness	Emotionality	Dependency Needs	Intellectual Orientation	Emotional Expression^b
4	7	2	I	II	III
-0.07	1.27	0.15	-1.48	-0.31	0.45
2.13	-1.75	0.45	1.76	0.38	0.98
-0.74	-0.26	-0.83	0.41	0.19	-0.94
-0.76	0.20	-1.27	0.12	-1.78	-1.00
-0.98	0.61	-1.58	0.61	0.83	0.11
-0.82	-1.52	-1.86	2.01	1.25	-1.88
1.98	0.58	2.36	-0.43	-0.02	2.54
-1.06	0.76	-1.92	-0.09	-1.32	-1.30
0.59	-1.45	0.11	0.03	1.88	-0.06
0.01	-0.02	-0.74	-0.10	-0.05	-0.34
-0.15	0.32	0.32	-0.52	0.75	0.16
1.30	0.49	1.13	0.30	-1.14	1.52
1.00	-1.37	-0.11	0.81	1.33	0.13
-0.15	-0.68	0.04	1.24	-0.39	-0.31
-0.15	0.66	0.30	-0.15	-0.53	0.27
-1.58	0.84	-1.58	-1.03	-1.27	-1.45
-0.38	0.60	1.04	-1.19	0.09	0.45
0.15	-1.37	0.00	1.63	-0.29	-0.37
-0.03	-1.64	0.79	0.42	0.57	-0.21
0.04	0.71	0.27	0.23	-1.98	0.39
-0.34	-0.15	-0.16	0.17	0.58	-0.34
1.11	-0.61	-0.85	0.94	1.22	0.12
0.30	0.19	1.18	-0.46	-0.32	0.79
-0.25	0.46	1.64	-2.12	-0.42	0.74
-0.62	0.22	0.58	-1.41	0.30	-0.06
-0.09	0.21	0.73	1.37	-0.39	0.34

competitiveness, vigorous testing, homework, compulsive organization, etc. The variables of Group Life, Intellectual Climate, and Personal Dignity loaded together but the variables related to standardized achievement have been replaced by a new factor. This factor emphasizes respect for students' rights and opinions, openness in regard to feelings and variety in regard to people, programs, activities, and minimizes high standards for achievement, competition and hard work. It was termed the Individualized Achievement factor.

Consistent with the emerging literature on organizational climates,[1] the Normative Control and Orderliness factors loaded together and were designated as Control Press.

To provide an illustration of the descriptive and diagnostic qualities of the HSCI, two schools at opposite extremes of the Development Press and Control Press measures will be discussed through an interpretation of the standard scores of the HSCI factors extracted in the study.

Characteristics of Schools at Opposite Extremes of Development Press

Both schools with extremely divergent scores on the Development Press dimension of the HSCI are located on the fringe of the metropolitan New York area. The school with the higher Development Press score is located in a setting designated as upper middle. The school with the lower score is located in a lower middle setting. The community of the former is socioeconomically and racially heterogeneous; the latter is more homogeneous. Six percent of the students in School 211 are nonwhite. Only two percent of the students in School 232 are nonwhite. The size of the schools are almost identical. The pupil-teacher ratio and number of guidance counselors are about equal. (See Appendix I for comparative data of these variables.) School 211 spends appreciably more per student than does School 232.

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[1] Carl R. Steinhoff, Organizational Climate in a Public School System, USOE Cooperative Research Program Contract No. OE-4-225, Project No. S-083 (Syracuse University, 1965); Edwin J. Alsing, "Organizational Climate in a Public Utility," (Doctoral dissertation, New York University, 1971).

The HSCI second order area mean scores for these schools are:

School No.	Development Press	Control Press
211	1.12	-.37
232	- .96	.74

Table 25 presents a profile of the HSCI factor standard score means for the two schools at opposite extremes of the Development Press measure. These scores are the result of the combined responses of high and low ability groups.

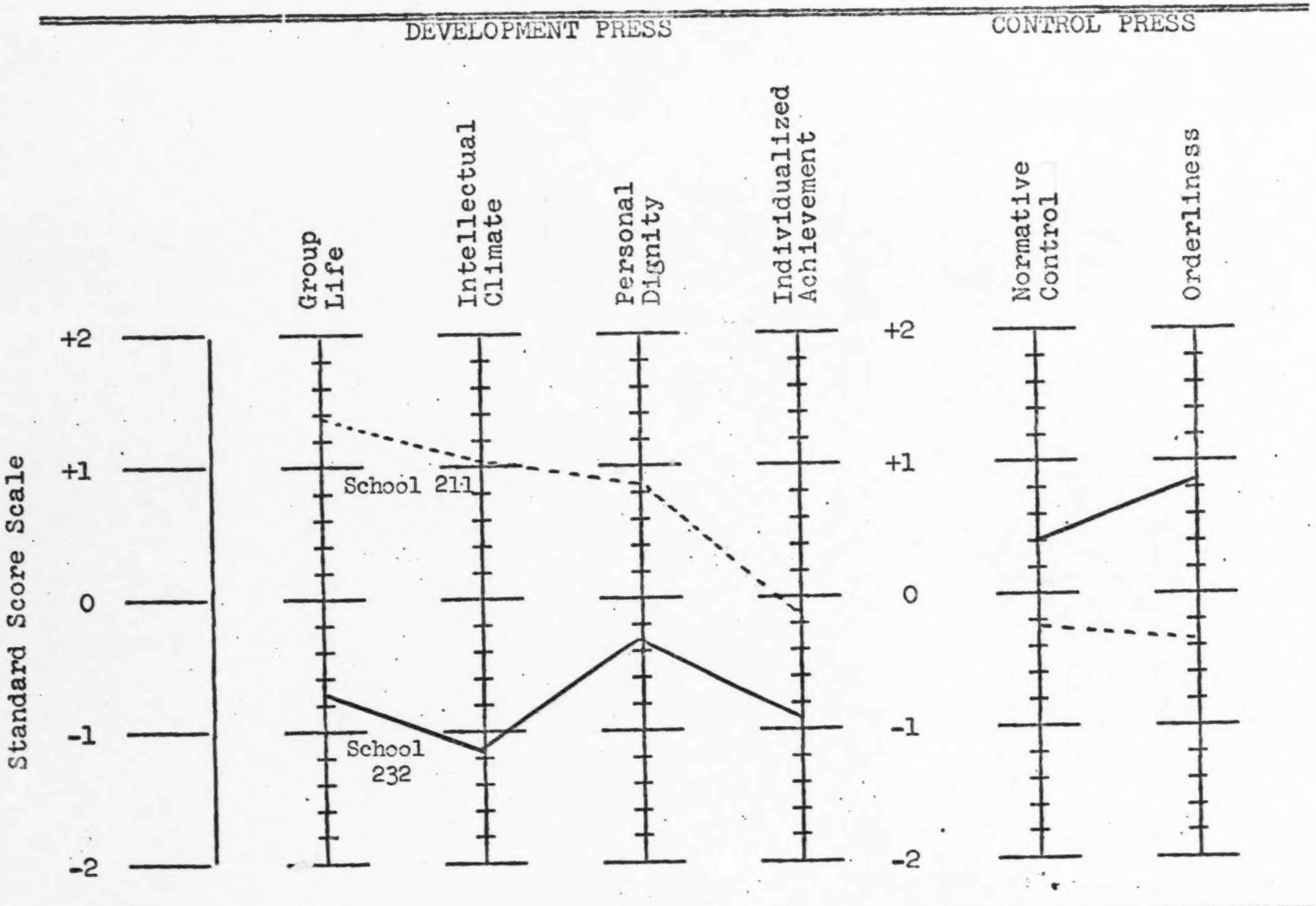
Although there is evidence of commercial property and a large auto assembly plant in the town, the surrounding community of School 211 is predominantly characterized by rather expensive, single family homes. The profile of combined scores of high and low ability groups sampled for this school characterize the student body as energetic, highly affiliative, group centered and fun loving. There are many school events and the students, teachers and administrators are generally supportive of each other. The school plant is described as attractive and students report they are generally comfortable in the environment.

Press for Normative Control and Orderliness are slightly less than average in School 211. However, the Intellectual Climate is higher than that of all the schools in the current sample (see Table 19). This would indicate that the school environment is characterized by a higher atmosphere of empirical analysis, aesthetic awareness and social commitment than the other schools. The students and faculty are described as involved in psychological and metaphysical expression with much emphasis on intellectualization, theorizing, and problem solving. The school facilities, lunches and activities are described positively. The high Personal Dignity score reports the school as maintaining an open, objective atmosphere with concern for fairness, assurance and acceptance. Students respect each other and school property. They are encouraged by the faculty and administration to be autonomous individuals. The general atmosphere is described as planned, purposeful and unhostile. The school environmental characteristics contributing to the Individualized Achievement factor are about average in this school. This indicates moderate amounts of self initiated student activity. High standards for achievement, competition and hard work are not markedly obvious at this school.

School 232, in contrast, is also located in the urban fringe but in the heart of heavy industry. The general neighborhood atmosphere is that of endless drab, tract housing. The students report general indifference toward social relationships between students, teachers and administrators.

TABLE 25

PROFILE OF FACTOR MEANS OF TWO SCHOOLS AT OPPOSITE EXTREMES OF DEVELOPMENT PRESS[a]



x=0, s.d.=2

[a] Norm based responses of 462 students from thirteen schools in the New York metropolitan area.

School is not fun, classes, projects and discussions are not particularly engaging or demanding. Opportunity is not provided for students to develop skills and talents in coordinating the work of others. The school plant is described as unappealing. Little effort has been made to provide comfortable space for relaxing or to provide tasteful and well prepared lunches. An aesthetic environment has defaulted to a typical institutional atmosphere.

Although this school does not report an extreme score on the Normative Control factor, press for Orderliness are the second highest in the sample. This would indicate that among the schools in the present study, School 232 is characterized by a high preoccupation with order bordering on compulsivity. Impulsive, spontaneous behavior is discouraged and students are sensitive that excessive caution is required in their behavior. The classrooms and halls are characterized by silence and students are reluctant to offer diverse opinions. Looking and acting right is expected and the students comply as they are neatly dressed and properly groomed. Students maintain a respected distance between each other, between themselves and the teachers. To the benefit of administrators, school property is seldom damaged and the school plant is generally clean.

The Intellectual Climate in this school suffers to the point where it ranks lowest on this factor in the current sample. The inverse relationship of the scores on Orderliness and Intellectual Climate support Stern's[1] contention that schools characterized by an excessive preoccupation with order and control are not likely to be characterized by a great deal of intellectual activity.

The Individualized Achievement factor for School 232 is the lowest in the present sample of thirteen schools. This would indicate low press for achievement, competition and striving for success through personal effort. Students respond with avoidance or hasty withdrawal from tasks or situations which can result in difficult, frustrating, humiliating or embarrassing experience or failures. The principal and teachers are described as aloof. Rules are rules in this school and complicity and conformity are generally characteristic of the students. In the main, the people and events of school life appear as predictable and drab to the students as the surrounding community.

The Personal Dignity factor score of School 232 is negative but not excessively low. This may indicate that the planned, restrained, respectful atmosphere characteristic of the teachers and administrators is carried over to relations with students as well.

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[1] Stern, op. cit., 1970, pp. 58.

The comparison of schools at opposite extremes of the Development Press measure shows the school with the higher score located in a higher socioeconomic setting with a heterogeneous student population. The school with the lower Development Press measure is located in a homogeneous lower middle community and the students are predominantly of lower middle socioeconomic background.

The contributing factors to the high Development Press score of School 211 are the school environmental characteristics represented by high scores on: Group Life, Intellectual Climate and Personal Dignity. The contributing factors to the low Development Press score of School 232 are the environmental characteristics represented by low Intellectual Climate, Individualized Achievement and Group Life. Personal Dignity also scored negatively but not in the low range. The high environmental press for Orderliness and low environmental press for Individualized Achievement and Intellectual Climate are a clear example of the inverse relationship of a rigid preoccupation with order to the intellectual atmosphere of a school.

Differences in Perceptions of Climate within Schools

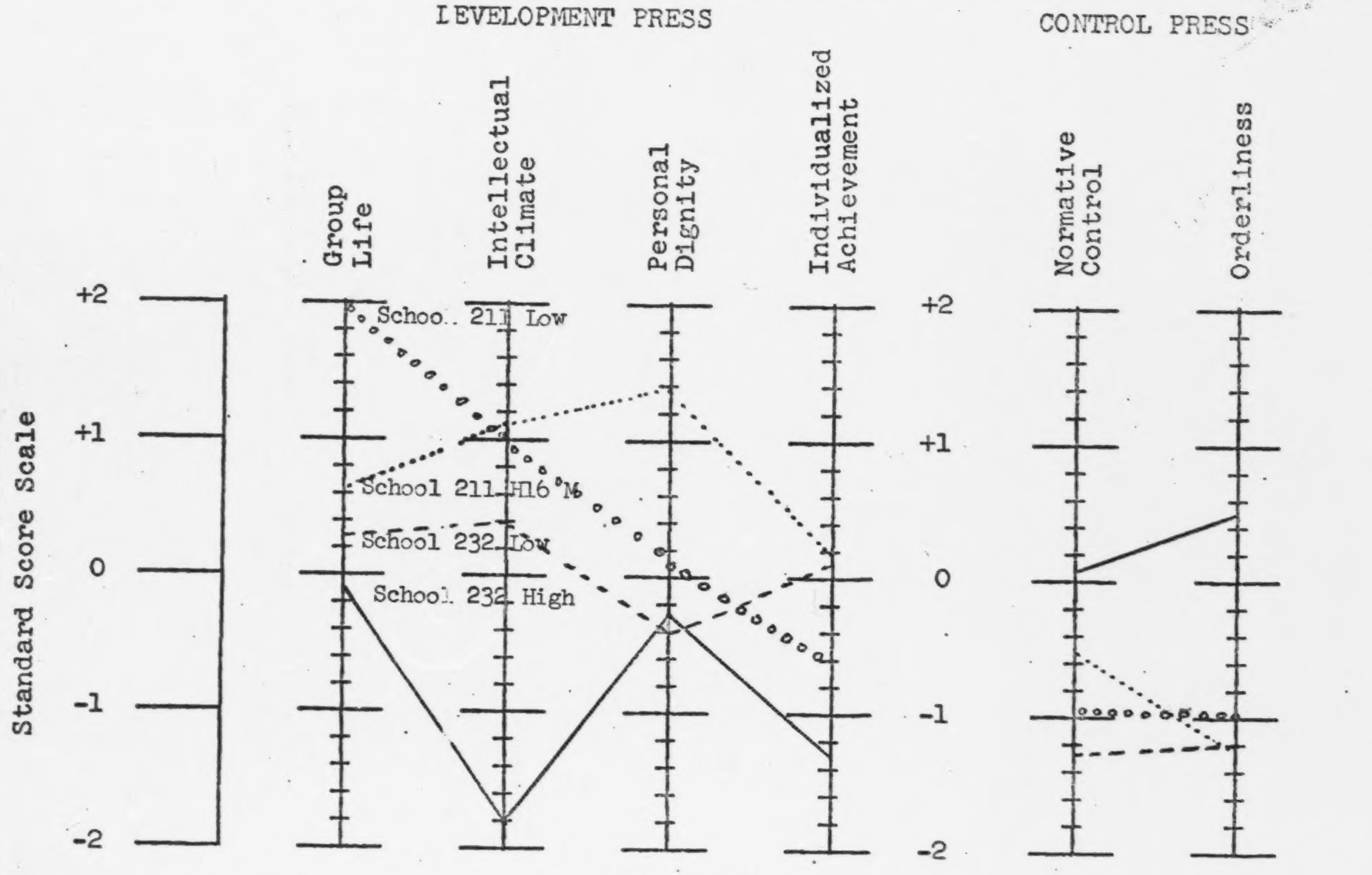
In examining the HSCI factor standard scores for high and low ability groups in Schools 211 and 232 we find that high and low ability groups do not always agree as to the characteristics of the school. The HSCI second order area mean scores for these groups are:

School and Ability Group	Development Press	Control Press
211 High	1.18	-1.08
211 Low	1.04	.61
232 High	-1.40	.45
232 Low	.14	1.47

The Development Press score for high and low ability groups in School 211 is about equal but the contribution of school characteristics to this total score for each of the groups is different. A profile of the factor components of Development and Control Press reported by high and low ability groups within Schools 211 and 232 are presented in Table 26. An inspection of this table indicates that high and low ability students agree as to the Intellectual Climate of School 211. Normative Control and Individualized Achievement press are about average.

TABLE 26

PROFILE OF HSCI FACTOR MEANS FOR HIGH AND LOW ABILITY GROUPS WITHIN SCHOOLS AT OPPOSITE EXTREMES OF DEVELOPMENT PRESS[a]



x=0, s.d.=2

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[a] Norms based on responses of 462 students from thirteen schools in the New York metropolitan area.

The disparity in environmental experiences emerges in the factor scores on Group Life, Orderliness and Personal Dignity. From these we learn that the lower ability students experience a good deal more organized group activity than the higher ability students. The higher ability students perceive higher organizational concern with those press concerned with Personal Dignity. The availability for open expression, variety of activity and encouragement of student responsibility is perceived as less for the lower ability students. Consequently, higher ability students report a lower score on Control Press.

When the data are analyzed by separate ability groups within School 232, the characteristics ascribed to the school by the higher ability group bring down the Development Press score of the school to the extreme. The Intellectual Climate and Individualized Achievement factor scores of the higher ability group are the lowest of the current sample. This would indicate the school program, as perceived by this student group, does not emphasize the humanities, the social sciences, or scientific empiricism. Neither does it encourage social action or involvement. Students report little opportunity for counteraction, open opinion, or frank expression. The higher ability group of School 232 perceives the school as low in Group Life. For them, the atmosphere is characterized by disassociation, social detachment, disengagement, passivity, and lack of challenge.

The overriding characteristics for the students in the lower ability group of School 232 are those concerned with training, normative compliance, and practicalness. High press for Orderliness and Normative Control are reported. This combination of factors contributes to a high score on Control Press. Other dimensions of school life are about average.

The separate examination of HSCI factor standard scores by high and low ability groups shows that a variety of school characteristics can contribute to a high Development Press score. It also demonstrates that students can perceive rather converse school characteristics in their subgroup experience.

Characteristics of Schools at Opposite Extremes of Control Press

The emerging literature on person-environment interaction presents evidence that the Development Press construct is suggestive of anabolic (growth enhancing) environmental process potentially conducive to self actualization and personal development. The Control Press dimension appears to reflect catabolic (destructive) processes devoted to institutional maintenance through behavior control.

Schools 222 and 313 are characterized by extremely divergent scores on the Control Press dimension. The second order area mean scores for these schools are:

School No.	Development Press	Control Press
222	.51	1.66
313	-.72	-1.86

A profile of the factor components of Development and Control Press reported for these schools appears in Table 27.

School 222 is located in the urban fringe in a congested community designated as a middle middle socioeconomic setting. There is evidence of heavy industry and one of the metropolitan area's largest shopping centers is close-by. The student population is slightly less than one thousand. A few years ago the town was named an All American City by the federal government. The student body is socially homogeneous. The Control Press standard score is the highest of the current sample.

School 313 is the smallest high school surveyed in the study. There are 450 students primarily of white, upper middle socioeconomic background in the student body. The community surrounding the school is typical of an elite, bedroom community in the suburbs of the metropolitan area of New York. The Control Press score is the lowest of the current sample.

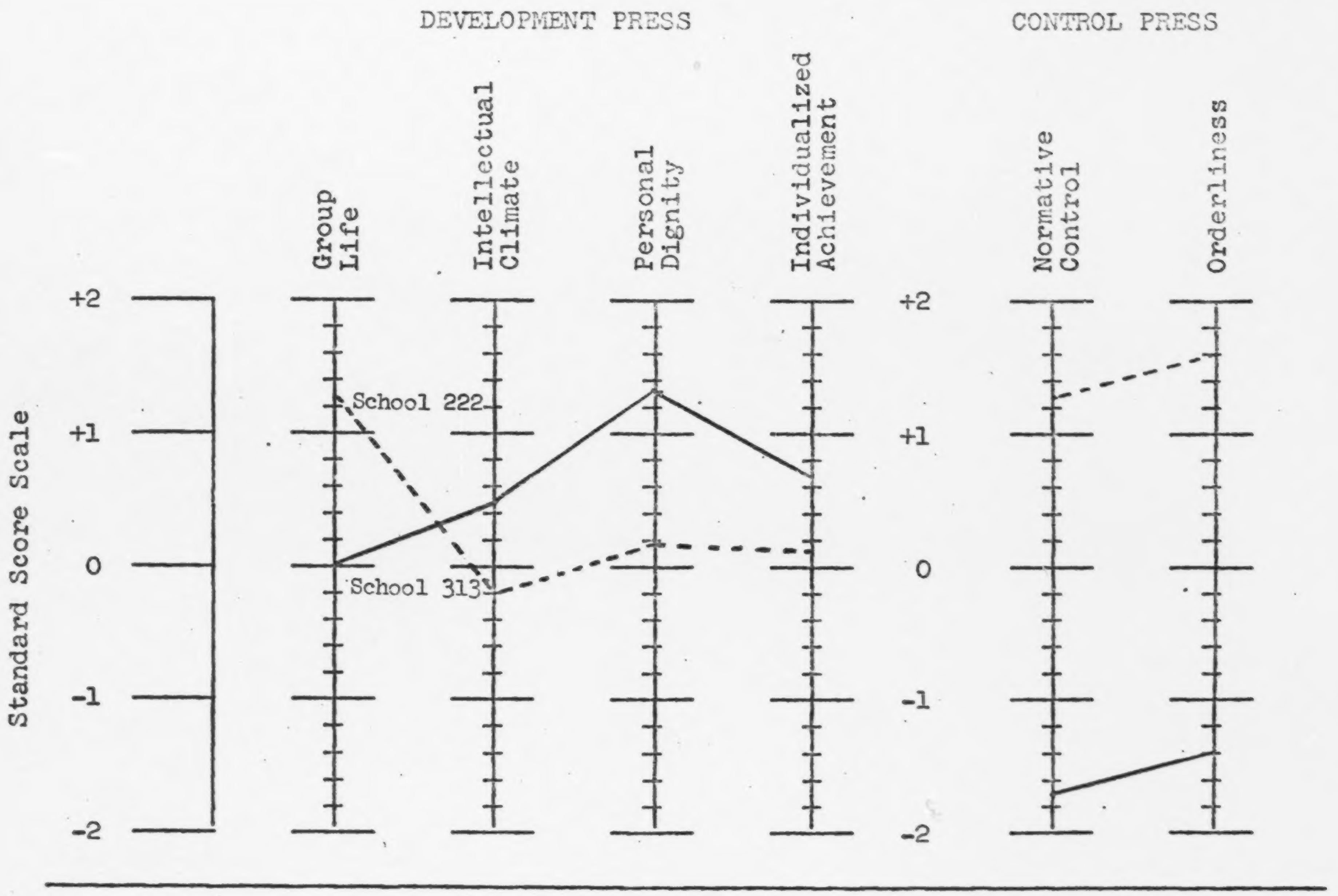
The relations presented in Table 25 show that although the students of School 222 perceive a high degree of Group Life the overriding characteristics of the school focus on a high degree of Normative Control and Orderliness. School 313, in contrast, reports a school environment high in those characteristics associated with the Personal Dignity and Individualized Achievement dimensions of school life. However, the negative Development Press score and the extremely low Control Press score suggests the school may have opted for a laissez-faire atmosphere which may not be in the best interest of its students.

Once again, the perceptions of school climate by separate ability groups within schools vary. The standard factor scores for high and low ability groups of schools with extreme scores on Control Press are presented in Table 28. Agreement on the gross dimensions of a school climate is not necessarily indicative of agreement as to the school environmental characteristics which are the factor components on that dimension.

The high Development and Control Press scores reported

TABLE 27

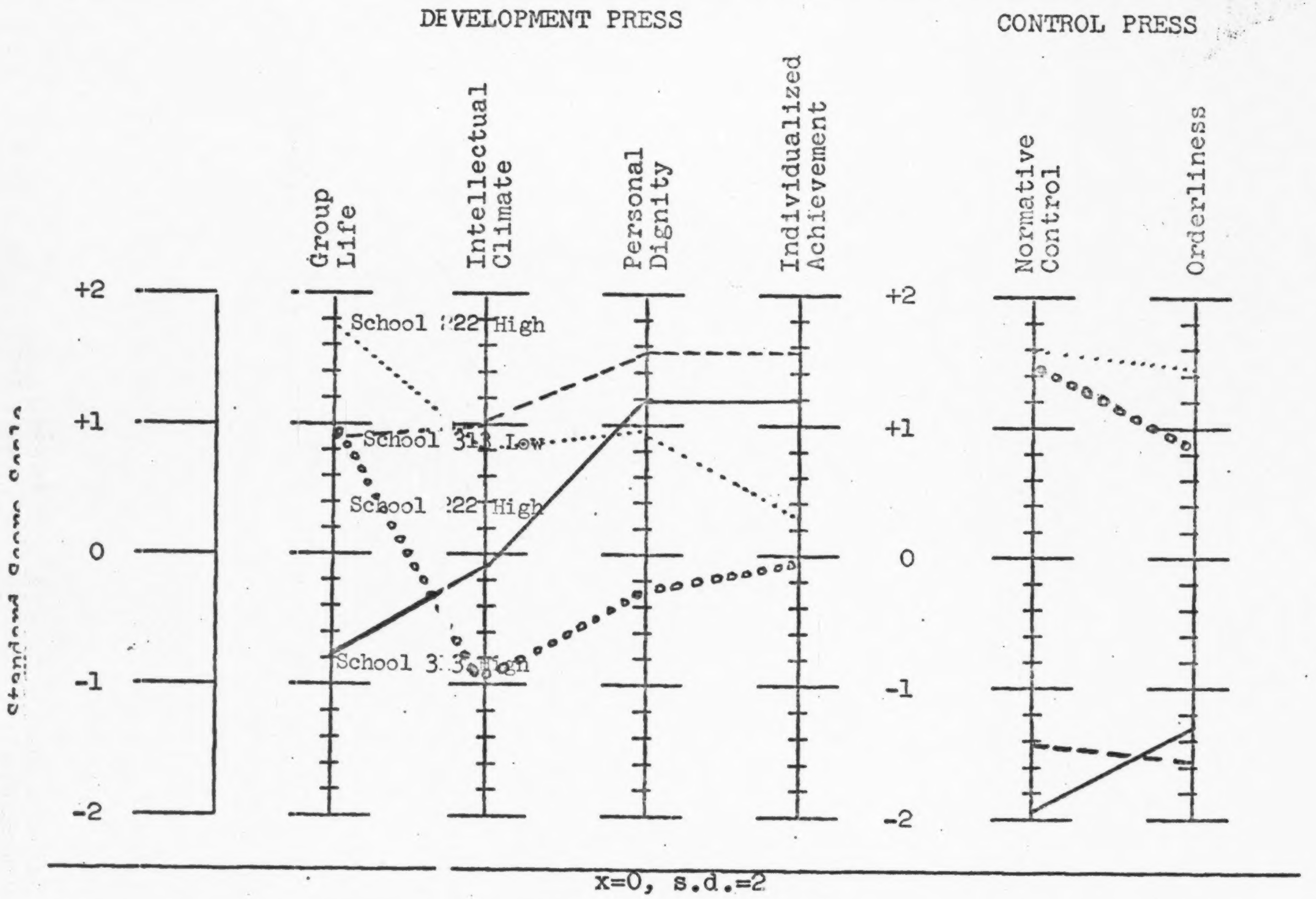
PROFILE OF HSCI FACTOR MEANS OF TWO SCHOOLS AT OPPOSITE EXTREMES OF CONTROL PRESS



x=0, s.d.=2

TABLE 28

PROFILE OF HSCI FACTOR MEANS FOR HIGH AND LOW ABILITY GROUPS WITHIN SCHOOLS AT OPPOSITE EXTREMES OF CONTROL PRESS[a]



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[a] Norm based responses of 162 students from thirteen schools in the New York metropolitan area.

for the higher ability group of School 222 suggest the coexistence of what should be contrary environmental press. If the Development Press construct suggests growth enhancing processes and the Control Press construct suggests destructive environmental processes, how can the two be equally prevalent in the subgroup experience of students?

It may well be that the second order factors are too broad in scope and tend to obscure important distinctions in regard to what characterizes a particular school or organizational experience. An examination of the factor scores contributing to the high Development Press score for the high ability group of School 222 shows high Group Life as the main contributor. Intellectual Climate and Personal Dignity are viewed positively but press associated with those factors are nowhere as great as those for affiliative, group centered activity. Consequently, the Development Press score is high.

The high Control Press score of the higher ability group of School 222 is contributed to by equal press for Normative Control and Orderliness. Stern referred to the Normative Control factor as the "super-life-sized chrome-plated version of the Brave New World outside."[1] Considering the high press for group activity with these press for normative peer and teacher sanctions and a well ordered environment, it is not inconsistent for the Development and Control Press scores to be high. Although somewhat of a carryover of the profile of high school life described in the major studies on adolescence[2] in the 1960's, the environment described by the higher ability group may reflect the reality of expectations for school life of the surrounding community. The national identification of the town as an All American City and the report of predominate school press for pragmatism, practicalness and conformity may be a coincidence but it may also be a result of the sensitivity of the HSCI as an analytic tool.

The analysis of HSCI factor scores by separate ability groups for School 313 brings other interesting relationships to view. In this case high and low ability groups agree as to low environmental prevalence of Normative Control and Orderliness. The Control Press standard score for these groups is essentially the same. However, the lower ability group of

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[1] Ibid., p. 255.

[2] James S. Coleman, The Adolescent Society: The Social Life of the Teenager and its Impact on Education (New York: The Free Press, 1961); R. J. Havighurst, et. al., Growing Up in River City (New York: John Wiley & Sons, Inc., 1962).

School 313 reports the school high in Development Press. The factor contributions to this score have to do with those school properties associated with the Intellectual Climate and Individualized Achievement factors. In this school the lower ability group perceives higher environmental encouragement of students' openness, activity and responsibility. For them, the school atmosphere is characterized by curiosity, inquiry and empiricism. The Group Life score is also higher for the lower ability group. The Personal Dignity scores are approximately the same. The higher ability students, on the other hand, report the life of the school as high in disassociation. The scores on Intellectual Climate and Individualized Achievement hover about the mean which suggests that nothing unusual in the way of intellectual or student activity characterizes school experience for this group.

The examination of perceptions of high and low ability groups within schools at opposite extremes of Control Press showed that a high score on Control Press is not always related to a low score on Development Press or vice versa. Although this can be attributed to orthogonal rather than linear environmental dimensions, the importance of examining the factor contributions to the broad Press measures cannot be overemphasized. Important distinctions appear to be obscured by a Development Press factor score. It is suggested that the four factors which comprise this area be viewed separately in an analysis of the environmental characteristics of a school. The Control Press area consists of two factors. However, these, too, focus on distinct press and would be better employed as separate measures of the characteristics of a school.

CHAPTER VI

SUMMARY, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

This project focused on students as they see themselves and their perceptions of their school program, teachers, administrators and other students. Because behavior is viewed as representing a transactional relationship between person and environment, both students and the organizational field of their respective high schools were studied. Employing a model developed at the college level, this research investigated the interrelationships among students' personality structure, socioeconomic background characteristics, program placement and perception of the academic, intellectual and social characteristics of their school.

Two appropriate instruments, conceptually matched to yield comparable data for both person and situation were used: the *Stern Activities Index* and the *High School Characteristics Index*. These provided descriptive and evaluative information concerning the relationship of properties of educational systems (*press*) to personality structures (*needs*), academic program placement, and socioeconomic background characteristics of their students.

462 eleventh year students from thirteen selected high schools in the New York City metropolitan area responded to both instruments. In addition, they provided data concerning family educational and occupational levels as well as their own educational and career aspirations. The sample population from each school was randomly selected from students' classified in high and low ability groups in English. The schools were representative of central city, city fringe, and suburban types. The students were representative of upper middle, middle middle and lower middle socioeconomic background. Statistical treatment reported significant relationships between the variables stated in the six hypotheses presented in Chapter I.

When the school characteristics as measured by *HSCI* factor scores were compared to the factor norms of the original *HSCI* referent population,[1] the current sample appeared extreme.

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[1] George G. Stern, *People in Context: Measuring Person-Environment Interaction in Education and Industry* (New York: John Wiley and Sons, Inc., 1970), pp. 250-251.

Consequently, a new factor structure was computed which was comparable in terms of broad descriptions but quite different in terms of specific interpretation. The profile of youth and schools which emerged from the scale correlations of both instruments diverges remarkably from the findings of the major adolescence studies of the 1960's.[1] Those adolescents were characterized by group centeredness, peer dependence, romantic preoccupations, and upward mobility manifested as drives for scholastic achievement.

In contrast, the factor patterning which describes the metropolitan population of this study suggests a profile of youth which is both serious and engaged but also fragmented and alienated; intellectually indifferent but emotionally expressive. Particularly characteristic is the expressed need for privatism and a general disdain for what might appear dominating behavior. The student personality factors extracted indicate bi-polar dimensions of Achievement Motivation, Emotionality, Dependency, Dominance, Intellectuality, Individuality, and Submissiveness. The school environmental factors indicate bi-polar dimensions of Group Life, Normative Control, Orderliness, Intellectual Climate, Personal Dignity, and Individualized Achievement.

The second order factor areas developed from the data provided by this sample are consistent with Stern's original identifications. For the *Activities Index* they are: Depen-Needs, *Intellectual Orientation and Emotional* Expression. For the *High School Characteristics Index* they are: Development Press and Control Press. As a careful inspection of the factor patterning demonstrates, these second order areas tend to obscure many important relationships which are essential to the characterization of personality structure or school environment. Ideally, an interpretation of the thirty *need-press*[2] scale scores of each of the instruments would be appropriate to a comprehensive description of the major variables. However, for the sake of parsimony, the present study focused on the relationships of *AI* and *HSCI* first order factors to socioeconomic and ability group variables.

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[1] James S. Coleman, *The Adolescent Society: The Social Life of the Teenager and Its Impact on Education* (New York: The Free Press, 1961); Robert J. Havighurst, et. al., *Growing Up in River City* (New York: John Wiley & Sons, Inc., 1962).

[2] George G. Stern, *op. cit.*, Appendix A.

Student Personality Structure

Activities Index mean scores for factors and areas for three groups of students, classified by sex and socioeconomic background characteristics were subjected to correlation procedures.

Male students with higher socioeconomic background characteristics manifested significantly higher needs for Independency, Individuality and Exertiveness. Male students with lower socioeconomic background characteristics manifested higher Dependency Needs.

Female students with higher socioeconomic background characteristics manifested significantly higher needs for Emotionality, Independence and Individuality. Like males, females of lower socioeconomic background characteristics expressed greater Dependency Needs. Higher SES females manifested higher Emotional Expression needs.

Males in higher ability groups reported higher self estimates of needs for Independence, Intellectuality, Individuality and Exertiveness. These were, in the main, consistent with the relationships to the socioeconomic variable. However, in the case of Independence, ability group and school interact suggesting higher scores on Independence for males are not always related to higher ability group.

Females in higher ability groups reported higher needs for Achievement Motivation, Intellectuality and Individuality. Females, like males, reported a significant interaction of ability group and school on the Independence factor. No consistent socioeconomic or demographic characteristic which could contribute to this relationship was apparent.

School Environmental Characteristics

Relationships were also significant between student socioeconomic background characteristics and scores on factors and areas of the High School Characteristics Index. Students with higher socioeconomic background characteristics perceived their high school atmospheres as low in Group Life. Lower SES students perceived greater press for Normative Control and Orderliness.

Analysis of variance indicated that higher ability groups reported appreciably lower levels of Group Life than did lower ability groups. Lower ability groups perceived higher press for Normative Control and Orderliness. Higher ability groups tended to perceive the school environment as being characterized by higher dimensions of Personal Dignity.

Although ability groups by schools were found to vary significantly in regard to the Individualized Achievement factor no consistent pattern was apparent. Significant interaction was reported for Orderliness and Intellectual Climate indicating the relationship of these variables is sometimes influenced by a combination of school and ability group.

In regard to HSCI factor and area relationships to three classifications of school socioeconomic setting: lower middle schools tended to be characterized by greater press for Orderliness. Upper middle schools tended to be characterized by greater Intellectual Climate. The Personal Dignity dimensions of upper and lower middle schools appeared about the same. The lowest Personal Dignity descriptions were associated with schools in the middle middle socioeconomic group.

The High School Culture Factor

One composite need-press factor combining both personality and environmental variables was extracted. Because the personality variables Emotionality and Individuality loaded negatively with the environmental variables Normative Control and Orderliness and compared favorably with the college Expressive factor, the factor was termed the High School Expressive Culture.

The High School Expressive Culture was found characteristic of higher ability groups in schools of higher socioeconomic settings. This is certainly consistent with Reich's[1] contention that brighter, more affluent adolescents are rejecting highly normative behavior and show little propensity for the delay of gratification. Reich termed this quality of youth of the early 1970's Consciousness III.

IMPLICATIONS

The evidence presented in this study indicates that schools appear to develop organizational environments which are consistent with the personality attributes of the student clientele. The personality structures of students and the normative climates of schools vary among socioeconomic groups. Within schools, relationships of personality and organizational environment vary as a function of academic program placement.

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[1] Charles A. Reich, The Greening of America (New York: Random House, 1970).

The *Activities Index* and the *High School Characteristics Index* proved useful tools in the analysis of social system interactions among and within high schools. The analyses of data suggested consistent interactions between person and environment. These can be categorized into two broad areas: the Dependent-Independent continuum for personality and the Normative Control-Laissez-Faire continuum for climate. The Normative Control dimension of the continuum appear related to the personality structures and school climates of lower SES youth; the Laissez-faire of higher SES youth.

There are several important implications in these findings, primarily in regard to: educational outcomes, instruction, organizational patterns of high schools, and staff development.

Educational Outcomes

The personality characteristics of youth of higher socioeconomic background focus on Independence and Individuality and minimize Achievement Motivation and Intellectuality. Their schools do not stress intellectuality or achievement but are characterized by low *press* for Normative Control and Orderliness. It is suggestive of a Laissez-Faire atmosphere. In light of Lavin's[1] research concerning the inverse relationship of higher SES to academic performance, this would not appear unusual. However, the youth of this sample do not represent extremes of the socioeconomic continuum. They are not the upper class students Lavin referred to. They represent in the main, the children of professionals who attend public schools.

Students of higher academic ability, regardless of socioeconomic background, also ascribe characteristics of Independence, Exertiveness and Individuality to themselves. Although they report higher *press* for Intellectual Climate or Individualized Achievement as characteristic of their school experience.

Traditionally, students of higher socioeconomic background and higher academic ability have enjoyed success in high school, college and their subsequent careers.[1] If the personality characteristics they ascribe to themselves and their descriptions of their school bear any relationship to their academic performance, it is no longer safe to assume that these students will automatically enjoy the continued advantage of origins-outcomes circularity in regard to educational advantage and its concomitant social success.

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[1] David E. Lavin, *The Prediction of Academic Performance: A Theoretical Analysis and Review of Research* (New York: Russell Sage Foundation, 1965).

There is clearly a correlation between the number of years of schooling and status prospects as measured by income.[2] The critical determinants are completion of high school and completion of college. Polk[3] and Stinchcombe[4] have found status prospects more important than status origins in regard to high school students' behavior. Higher rates of dissatisfaction were found among downwardly mobile middle class students than among working class students. The data presented in this study suggest a potential source of description and rebelliousness may be in the halls of schools attended by brighter, more affluent students. Certainly, the limited studies[5] of disturbance in the colleges suggest this to be the case.

Research on the normative climates of high schools and colleges suggests that schools can make a difference.[6]

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[1] W.W. Charters, "The Social Background of Teaching," N. L. Gage, ed., Handbook of Research on Teaching (Chicago: Rand McNally, 1963).

[2] Robert Schrank, "Yearning, Learning and Status," Sar Levitan, ed., Blue Collar Workers: A Symposium on Middle America (New York: McGraw Hill Book Co., 1971), pp. 318-337.

[3] Kenneth Polk, "Class, Strain and Rebellion Among Adolescents," Social Problems, XVII (Fall, 1969), pp. 214-224.

[4] Arthur L. Stinchcombe, Rebellion in a High School (New York: Quadrangle Books, 1969), p. 265.

[5] Samuel Kaplan, "The Revolt of the Elite: Sources of the FSM Victory," The Graduate Student Journal, IV (Spring, 1965), pp. 27-29; David L. Westby, "Class and Political Activists," American Sociological Review, XXI (April, 1966), pp. 690-692.

[6] Edward L. McDill, Edmund D. Meyers, Jr., Leo C. Rigsby, "Institutional Effects on the Academic Behavior of High School Students," Sociology of Education, XL (Summer, 1967), pp. 181-199; James V. Mitchell, Jr., "Dimensionality and Differences in the Environmental Press of High School," American Educational Research Journal, V (November, 1968), pp. 513-520.

Schools which stress intellectual environment achievement and competition are more conducive to higher achievement on the part of individual students. This is supportive of Lewin's[1] contention that neither the personality of the actor alone or the nature of the social situation alone is adequate to interpret group behavior.

As the data presented in this study indicates, schools are confronted with students unlike the traditional students of the past. The response to this encounter should not be to surrender the educational responsibility of the institution. Friedenberg[2] writes that schools have the capacity and, therefre, the obligation "to clarify for its students the meaning of their experience of life in their society." Considering the intellectual and social resources traditionally associated with youth of higher socioeconomic background and higher academic ability schools must attempt to design experiences which will encourage and direct the development of their educational potential.

Students of lower socioeconomic background and lower academic ability report higher Dependency Needs for themselves and excessive Orderliness and Normative Control as characteristic of their school experience. This is consistent with Conant's[3] finding of higher orderliness and control in poorer, city schools than wealthier, suburban schools. Conant,[4] in Slums and Suburbs was highly critical of the Laissez-Faire atmosphere prevalent in suburban schools. He attributed this atmosphere to the predispositions of parents who favored progressive education. The data in the present study indicate that students of lower socioeconomic background and lower academic ability are experiencing press for Orderliness and Normative Control regardless of where they live or the socioeconomic setting of the school they attend. This could imply that the socializing experience these students experience in school insures that they will continue to internalize the characteristics essential to the maintenance of a subordinate role both in school and in their future experience in the world of work.

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[1] Kurt Lewin, Field Theory in Social Science: Selected Theoretical Papers, Cartwright S. Dorwin, ed. (New York: Harper Torchbooks, Harper and Row, 1951), pp. 238-297.

[2] Edgar Z. Friedenberg, The Vanishing Adolescent (New York: Dell Publishing Co., Inc., 1959), p. 78.

[3] James B. Conant, Slums and Suburbs (New York: McGraw Hill Book Co., 1961).

[4] Ibid.

Dewey[1] wrote long ago about the dangers inherent in external controls and sanctions in schools. Students, he urged, must be encouraged to develop judgments, self-initiative and self-responsibility. Only in this manner can they become aware of the social value of what they do. A school experience which focuses on the maintenance of order and predictable behavior for students is not developing within them the forces of character which will enable them to participate as social and psychological equals in society. Each high school should clearly face this issue.

The combination of perception of high environmental press or Normative Control and Orderliness and higher self-estimates of personal Dependency Needs suggests that students of lower socioeconomic background and ability may be experiencing a predominating school organizational atmosphere which is antithetical to their educational needs. Relationships between learning and student dependency characteristics have been investigated by Amidon[2] and Flanders.[3] High dependency prone students were reported to learn more when taught by teachers using indirect rather than direct techniques. Flanders[4] also concluded that dependency prone students were more sensitive to types of teacher influence. Clearly, the Orderliness and Normative Control factors are descriptive of direct teaching techniques.

Instruction and Organizational Patterns

The student descriptions of themselves and their high school experiences provided in this study suggests the advisability of organizational change in the contemporary, metropolitan high school.

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[1] John Dewey, Moral Principles in Education (New York: Philosophical Library, 1959).

[2] Edmund Amidon and Ned A. Flanders, "The Effects of Direct and Indirect Teacher Influence on Dependent-prone Students Learning Geometry," Journal of Educational Psychology, LII (December, 1961), pp. 286-289.

[3] Ned A. Flanders, Teacher Influence, Pupil Attitudes and Achievement (Minneapolis: University of Minnesota, U.S. Office of Education Cooperative Research Project No. 397, 1960).

[4] Ibid.

Several organizational innovations for high schools have recently emerged in the attempt to provide more appropriate educational experiences for today's youth. These include: flexible scheduling, independent study, student participation in decision-making, mini-courses, option of attending classes and other alternative school programs. Because these programs are relatively new to education, results concerning their effectiveness have not been documented. They appear to hold promise for the required changes in organizational patterns indicated by the descriptions of youth and their schools in this study.

According to Bishop,[1] the development of any responsibility in students, even shared responsibility, for their own education is almost nonexistent in most school programs. Students are generally expected to be passive agents in school and are allowed little opportunity to participate actively in the instructional and learning process. The organizational pattern of traditional high schools deals with students as groups. They are generally graded, rated, scolded and praised as a group. They go through the curriculum as a group, come to school as a group, and leave as a group. Yet the brighter, more affluent youth in this study report high self estimates of needs for Independence, Individuality, and Exertiveness. This would indicate the importance of changing the conventional school format from one which is organized to respond to groups to one which is organized to respond to individuals.

One of the most pervasive themes dominating American education during the last decade has been the concept of individualization of instruction.[2] Individualization requires an organizational pattern which encourages students to engage in activities uniquely appropriate to one's own style and rate of learning. Such instruction should be designed to exploit the independence, individuality and energy attributes of higher ability students. Individualization which is bound to the traditional accumulation of advanced or remedial work via texts or programmed materials, is not what is suggested.. Rather, through the identification of different learning styles, students would be guided to develop conceptual proficiency in very different ways. This would not only imply the necessity of changing the conventional school format concerning books, teachers, tests and classrooms but also the necessity of changing the interaction between students and the professional staff.

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[1] Lloyd K. Bishop, "Organizational Climate and the Student," Individualizing Educational Systems (New York: Harper and Row, 1971), pp. 209-221.

[2] Ibid., p. 3.

The combination of independent study and flexible scheduling can provide a viable way to change the organizational patterns of high schools to greater emphasis on independence and individuality.[1] Independent study is a term associated with a learning situation which emphasizes the individual's role in learning. The student develops skills and interests alone or in informal interaction with other students, teachers or the community. Flexible scheduling is the result of an attempt to open the school day in terms of time and experiences. Modules of eighteen to twenty-two minutes rather than forty minute periods are combined in a variety of ways to provide either greater or lesser exposure to particular units of study. In addition to the variability of course structuring, flexible scheduling permits the offering of mini-courses or intensive study in an instructional area which may be particularly germane to an understanding or appreciation of the historical, cultural or social events of the time. Inherent in the concept of flexible scheduling is the assumption that each student should have part of the school week unscheduled so as to participate in an independent study program. Under ideal conditions, approximately one-quarter to one-third of the student's time is scheduled as unscheduled time. Such a program requires appropriate facilities such as small study rooms, learning resource centers and comfortable conversation areas.

Staff Development

One needs little imagination to picture the organizational upheaval the sudden introduction of flexible scheduling and independent study would bring to most school organizations. Regardless of how independent and individualistic students report themselves, they have been conditioned for at least ten years to acquiesce passively to the will of the teachers. A frequent complaint from schools which have recently adopted this instructional pattern is that students do not know what to do, they prefer to be told what to do and require specific direction from the professional staff. Organizational anxiety is a typical response to any major change. Schools should strive to maintain a supportive atmosphere. This should not be confused with encouraging dependency relationships which are antithetical to personal growth and development.

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[1] *Ibid.*, p. 94.

Consequently, the most important organizational prerequisite for an innovative program is adequate staff preparation and commitment. It is probably easier for an administrator to find a means of providing new facilities than to prepare a staff characterized by both high intellectual commitment and with the ability to endure the frustration and ambiguity these programs would experience in the long period of the initial stages.

Teachers have traditionally been characterized by high needs for orderliness, emotional constraint and self-effacement.[1] They tend to receive their training at institutions which are characterized by a high degree of order, organization and supportiveness.[2] The sudden introduction of a program designed for individuality and independence on the part of students would be ill-advised and doomed to fail.

Organizational development is a new process designed to aid the introduction of innovation to school systems.[3] It is a process designed to result in the optimizing of behavior by emphasizing the interrelatedness of person and organization. It is far beyond the scope of this paper to describe the processes of organizational development. Suffice to say that much of the process focuses on the clarification of organizational goals, the definition of personal goals and some assessment of the consequences of person-situation interaction. It attempts to analyze social system interaction through exploration, discussion, confrontation and participatory decision-making under the direction of a trained leader or team.

An organizational development program can provide teachers, administrators and students with the opportunity to confront each other and confront themselves. Basically, it asks the question, "Who am I, and what am I doing here?" It also asks, "Who are we, and what are we doing here?"

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[1] Egon G. Guba, Philip W. Jackson and Charles E. Bidwell, "Occupational Choice and the Teaching Career," Educational Research Bulletin, XXXIII (January, 1959).

[2] Stern, op. cit., 1970.

[3] Warren G. Bennis, Organizational Development: Its Nature, Origins, and Prospects (Reading, Mass.: Addison-Wesley Publishing Co., 1969).

An assessment of student personality structure and their perceptions of the environmental characteristics of their school program would be an excellent beginning for an organizational development program. Obviously, teachers and administrators should also report their perceptions of themselves and the school in which they work. Matching instruments for adults are available for this purpose.[1] Discussions could then center on similarities and differences of students' and staff's personality structure, similarities and differences in perceptions of the school environment and what to do about it.

Organizational analysts[2] have suggested that the effectiveness of a social system is predicated on the integration of individual needs to organizational demands. Stern[3] has pointed out that students who are confronted with organizational demands incongruent with their personality needs tend to respond with withdrawal or hostility. Argyris[4] writes that people in organizations who use substantial amounts of energy to deal with the anxiety created by role demands antipathetic to their needs have little energy left to apply to effective goal directed behavior. He contends that organizational effectiveness hinges on an organization's ability to accomplish three essentials: (1) achieve its goals; (2) maintain itself internally; and (3) adapt to its environment.

It would appear advisable, therefore, for schools to systematically draw a measure of the social system interaction taking place. If organizational effectiveness can be enhanced by higher congruence of needs and press, then information concerning the relationships of these variables among all organizational constituents is essential.

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[1] The Organizational Climate Index (Syracuse, New York: Syracuse University Psychological Research Center); Robert G. Owens and Carl R. Steinhoff, "Strategies for Improving Inner-City Schools," Phi Delta Kappan, L (January, 1969), pp. 259-263.

[2] Chris Argyris, Integrating the Individual and the Organization (New York: John Wiley and Sons, Inc., 1964); Jacob W. Getzels, James M. Lipham and Ronald F. Campbell, Educational Administration as a Social Process: Theory, Research, Practice (New York: Harper and Row, 1968).

[3] Stern, op. cit., 1970.

[4] Argyris, op. cit., 1964, p. 123.

As an exploratory study the current research clearly demonstrates that measures of student personality and school characteristics can be extracted from heterogeneous populations in public schools. These are related to socioeconomic background and program placement. Further, one significant need-press interaction or culture factor emerged which indicated consistent relationships between certain student personality and school characteristic variables. It will be necessary to replicate this study with a large sample and a national population. Certainly, other variables should be considered in regard to their relationship with the need-press measures.

IMPLICATIONS FOR FURTHER RESEARCH

1. The results reported in this study strengthen the conceptual assumptions concerning behavior as a function of the interaction of person and environment. In order to provide normative data to be used to compare the scores of one school or group to another it will be necessary to collect and analyze data from a random sample of a national population. These data should include rural as well as inner city schools, elite private and parochial schools, and students representing the broad range of the socioeconomic continuum.

2. Factor analysis of the data provided by the responses of high school students on the Activities Index and High School Characteristics Index yielded factors which are similar to those identified by Stern in other studies.[1] This would indicate that the instruments represent a fairly stable set of person and environmental dimensions. The instruments require two and a half hours for completion. Further development of the instruments should attempt to shorten them.

3. In order to provide means of external validity for the AI and HSCI comparison studies between the resultant data of student perceptions and those of independent observers should be pursued.

4. Significant relationships between student personality structure and school environmental characteristics were reported in this study. One culture factor was extracted. This suggests the advisability of broadening the sample to determine if a variety of cultures can be identified in high schools.

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[1] Stern, *op. cit.*, 1970.

5. Seven personality factors and six high school environmental factors were identified in this study. Further research should pursue the relationship of these variables to results on standardized achievement tests, attendance, college placement and incidence of school disturbance.

6. There are a number of schools in the United States which have adopted organizational patterns of individualization of instruction, flexible scheduling, and independent study. Relationships between these variables and AI and HSCI factors should be identified.

7. Considering that the internal social system interaction of a high school is the result of the behaviors of students, teachers, and administrators it is important to determine the relationships of perceptions of self and the school environment of these three groups. An extensive study could also consider the personality needs manifested by aggregates of the subgroups who make up the external community (the parents) and their perceptions of the internal environment of the school.

8. If a school system is planning systematic intervention designed to modify certain characteristics of its internal environment, it would be important to collect data before the innovation and compare it to reports which describe the school after the intervention. The Stern Environmental Indexes are appropriate instruments for this purpose.

RECOMMENDATIONS

Our economy and social structure have changed radically since the classical research on the impact of socioeconomic and demographic variable on adolescence was published.[1] The relative differences between small towns and nearby cities has been altered by one expansive megalopolis which encompasses broad areas and tends to obscure distinctions. This is apparent in the relatively narrow range of differences in the student personality and school environmental characteristics as reported by the AI and HSCI standard scores in this study.

This is not to imply that schools have successfully developed comparable normative climates which tend to reduce educational disparities. There continues to be significant differences in the characteristics of schools which are identified with both student socioeconomic background and academic ability. These differences do not necessarily indicate that students who are brighter or more affluent are necessarily at distinct advantage in their high school experiences. The personality characteristics they ascribe to themselves emphasize Independence and Individuality and minimize Intellectuality. The characteristics they report of their school experience deemphasize Orderliness and Normative Control but do not emphasize intellectual activity or achievement. On the other hand, students of lower socioeconomic background and lower academic ability report higher Dependency Needs for themselves and the emphasis of Orderliness and Normative Control as characteristic of their school experience.

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[1] James S. Coleman, op. cit., 1961: Robert J. Havighurst, op. cit., 1962.

In light of these findings, teacher training institutions would do well to reexamine both their methodology in regard to what may be obsolete instruction in motivational techniques and their teacher candidate selection and retention criteria. Independent, individualistic, bright potential teachers should be recruited by Schools of Education in the attempt to more effectively meet the needs of contemporary youth. An experimental program should be so designed as to not hamper their development with the constraining atmosphere often characteristic of these institutions. Such a program could capitalize on the humanistic, empirical and metaphysical needs some students ascribe to themselves. In addition to being a frank attempt to attract these students to teaching, an exploration of their potential could lead to the development of new models for teacher education appropriate to the 1970's.

The results reported in this study are highly suggestive of the contributing factors to the crisis in education in the public high schools today. Certainly the evidence concerning the personality characteristics students bring to the school indicates that the task of education is complex and challenging. The present study, although exploratory, is offered as a base on which to build.

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APPENDIX I

AI-HSCI SAMPLE DESCRIPTION

Schools = 13
Students = 462

School Number	121	131	132	211	212
Location	Urban	Urban	Urban	Fringe	Fringe
School SES	Middle Middle	Lower Middle	Lower Middle	Upper Middle	Upper Middle
Total Students	4385	3602	4911	1119	1950
Sample	40	46	34	24	38
Sex Distribution					
Male	26	20	20	18	18
Female	14	26	14	6	20
Ability Grouping					
High	25	25	21	14	18
Low	15	21	13	10	20
Student SES High Ability Group					
Upper Middle	7	0	0	9	15
Middle Middle	11	0	8	3	2
Lower Middle	7	25	13	2	1
Student SES Low Ability Group					
Upper Middle	0	0	0	0	10
Middle Middle	4	1	1	2	8
Lower Middle	11	20	12	8	2

APPENDIX I--Continued

221	222	231	232	311	312	313	321
Fringe	Fringe	Fringe	Fringe	Suburban	Suburban	Suburban	Suburban
Middle Middle	Middle Middle	Lower Middle	Lower Middle	Upper Middle	Upper Middle	Upper Middle	Middle Middle
1420	960	1300	1170	1160	1250	450	1270
48	35	35	38	33	32	24	33
16	13	20	21	21	21	10	17
32	22	15	17	12	11	14	16
36	15	20	27	14	19	13	21
12	20	15	11	19	13	11	13
11	4	2	1	9	6	13	4
10	4	6	9	3	9	0	11
15	7	12	17	2	4	0	6
0	0	0	0	0	0	8	0
2	2	2	0	3	5	2	4
10	18	13	11	16	8	1	9

APPENDIX I--Continued

School Number	121	131	132	211	212
Aspiration High Ability Group					
College	24	11	19	14	18
Work	1	14	2	0	0
Aspiration Low Ability Group					
College	6	2	1	2	18
Work	9	19	12	8	2
Percent Non-White Students	41	14.1	12.2	0.07	6
Students per Teacher	21.9	23.5	22	14	18
Pupil Costs Instruction	$ 811	$ 834	$ 791	$1800	$1800
Guidance Counselors	8	9	9	4	7
Percent of Students enrolled in College Prep	75	94	60	65	80

APPENDIX I--Continued

221	222	231	232	311	312	313	321
36	12	10	27	13	19	13	15
0	3	10	0	1	0	0	6
0	9	2	1	0	9	8	2
12	11	13	10	19.	4	3	11
2	0.01	6	0.02	0.05	50	0.05	0.05
17	19	18	15	16.5	20	14	16
$ 960	$1100	$1500	$ 950	$1200	$1640	$1890	$1730
4.5	7	5	4	5	7	2	5.2
70	65	60	45	83	80	80	80

APPENDIX II

SAMPLE CODING

Column Number		
1.	School Location	1=Urban 2=Fringe 3=Suburban
2.	School SES	1=Upper Mid. 2=Middle Mid. 3=Lower Mid.
3.	School Number	No. in Set
4.	Ability Group	1=High 2=Low
5.	Sex	1=Male 2=Female
6.	Student SES	1=Upper Mid. 2=Middle Mid. 3=Lower Mid.
7.	Student Aspiration	1=Coll. 2=Work
8. 9.	Student Number	No. in Group

APPENDIX III

PUPIL DATA QUESTIONNAIRE

Name______________________________ Date________________

Subject Class_______________________ Sex________________

1. Which program are you taking in high school?

☐ College preparatory

☐ Other ______________ (specify)

2. Which best describes your plans after high school?

☐ To go to college for 4 years

☐ To go to college or technical school for two years

☐ To go to work

☐ Other_____________________________(specify)

3. What kind of work do you plan to do when you have finished your education?

4. How much formal education did your parents have? (Check one box for each parent)

Mother	Father	
☐	☐	Some grade school
☐	☐	Finished grade school
☐	☐	Some high school
☐	☐	Finished high school
☐	☐	Some college
☐	☐	Finished college
☐	☐	Attended graduate school or professional school after college

5. What are your parents' occupations?

Mother_________________________ Father____________________

APPENDIX IV

STERN ACTIVITIES INDEX

George G. Stern, Syracuse University

This booklet contains a number of brief statements describing many different kinds of activities. You will like some of these things. They will seem more pleasant than unpleasant to you, perhaps even highly enjoyable. There will be others that you will dislike, finding them more unpleasant than pleasant. The activities listed in this booklet have been obtained from a great many different persons. People differ in the kinds of things they enjoy, like to do, or find pleasant to experience. You are to decide which of these you like and which you dislike.

DIRECTIONS

Print the information called for at the top of the special answer sheet: your name, the date, your age and sex, etc. Then, as you read each item, *blacken* space

L — if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D — if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

DIRECTIONS FOR USING NCS ANSWER SHEET

The rows of response circles are numbered to correspond to the items in the Test Booklet. Each question may be answered either Ⓛ or Ⓓ

In marking your answers on the Answer Sheet, make sure that the number of the Statement is the same as the number on the Answer Sheet. Be sure to answer either Ⓛ or Ⓓ for every Statement.

* Be sure to use a #2½ or softer writing pencil.
* Do Not Use Ball Point or Ink.
* Keep your Answer Sheet Clean.
* Do not make stray marks.
* Erase errors completely.
* Fill the circle completely.

Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

1. Taking the blame for something done by someone I like.
2. Setting difficult goals for myself.
3. Concealing a failure or humiliation from others.

4. Having other people let me alone.
5. Getting what is coming to me even if I have to fight for it.
6. Being quite changeable in my likes and dislikes.

7. Scheduling time for work and play during the day.
8. Working twice as hard at a problem when it looks as if I don't know the answer.
9. Seeing someone make fun of a person who deserves it.

10. Persuading a group to do something my way.
11. Being a newspaperman who crusades to improve the community.
12. Listening to music that makes me feel very sad.

13. Taking up a very active outdoor sport.
14. Keeping in the background when I'm with a group of wild, fun-loving, noisy people.
15. Toughening myself, going without an overcoat, seeing how long I can go without food or sleep, etc.

16. Diving off the tower or high board at a pool.
17. Learning about the causes of some of our social and political problems.
18. Doing something crazy occasionally, just for the fun of it.

19. Imagining what I would do if I could live my life over again.
20. Feeding a stray dog or cat.
21. Taking special precautions on Friday, the 13th.

22. Washing and polishing things like a car, silverware, or furniture.
23. Making my work go faster by thinking of the fun I can have after it's done.
24. Being good at typewriting, knitting, carpentry, or other practical skills.

25. Understanding myself better.

26. Learning how to prepare slides of plant and animal tissue, and making my own studies with a microscope.
27. Holding something very soft and warm against my skin.
28. Talking about how it feels to be in love.

29. Belonging to a close family group that expects me to bring my problems to them.
30. Concentrating intently on a problem.
31. Suffering for a good cause or for someone I love.

32. Working for someone who will accept nothing less than the best that's in me.
33. Defending myself against criticism or blame.
34. Going to the park or beach with a crowd.

35. Shocking narrow minded people by saying and doing things of which they disapprove.
36. Getting up and going to bed at the same time each day.
37. Planning a reading program for myself.

38. Returning to a task which I have previously failed.
39. Doing what most people tell me to do, to the best of my ability.
40. Having other people depend on me for ideas or opinions.

41. Being an important political figure in a time of crisis.
42. Crying at a funeral, wedding, graduation, or similar ceremony.
43. Exerting myself to the utmost for something unusually important or enjoyable.

44. Wearing clothes that will attract a lot of attention.
45. Working until I'm exhausted, to see how much I can take.
46. Being careful to wear a raincoat and rubbers when it rains.

47. Studying the music of particular composers, such as Bach, Beethoven, etc.
48. Acting impulsively just to blow off steam.
49. Thinking about ways of changing my name to make it sound striking or different.

50. Discussing with younger people what they like to do and how they feel about things.

Legend: L – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

101. Living a life which is adventurous and dramatic.
102. Having someone for a friend who is very emotional.
103. Sleeping long hours every night in order to have lots of rest.

104. Playing music, dancing, or acting in a play before a large group.
105. Thinking about what I could do that would make me famous.
106. Riding a fast and steep roller coaster.

107. Comparing the problems and conditions of today with those of various times in the past.
108. Doing whatever I'm in the mood to do.
109. Daydreaming about what I would do if I could live my life any way I wanted.

110. Comforting someone who is feeling low.
111. Avoiding things that might bring bad luck.
112. Arranging my clothes neatly before going to bed.

113. Getting as much fun as I can out of life, even if it means sometimes neglecting more serious things.
114. Learning how to make such things as furniture or clothing myself.
115. Trying to figure out why the people I know behave the way they do.

116. Doing experiments in physics, chemistry or biology in order to test a theory.
117. Sleeping in a very soft bed.
118. Seeing love stories in the movies.

119. Having someone in the family help me out when I'm in trouble.
120. Working crossword puzzles, figuring out moves in checkers or chess, playing anagrams or scrabble, etc.
121. Admitting defeat.

122. Taking examinations.
123. Being corrected when I'm doing something the wrong way.
124. Belonging to a social club.

125. Teasing someone who is too conceited.

126. Moving to a new neighborhood or city, living in a different country, etc.
127. Finishing something I've begun, even if it is no longer enjoyable.
128. Staying away from activities which I don't do well.

129. Following directions.
130. Being able to hypnotize people.
131. Playing an active part in community affairs.

132. Going on an emotional binge.
133. Walking instead of riding whenever I can.
134. Doing something that will create a stir.

135. Thinking about winning recognition and acclaim as a brilliant military figure.
136. Standing on the roof of a tall building.
137. Studying different types of government, such as the American, English, Russian, German, etc.

138. Doing things on the spur of the moment.
139. Having lots of time to take care of my hair, hands, face, clothing, etc.
140. Having people come to me with their problems.

141. Being especially careful the rest of the day if a black cat should cross my path.
142. Recopying notes or memoranda to make them neat.
143. Finishing some work even though it means missing a party or dance.

144. Working with mechanical appliances, household equipment, tools, electrical apparatus, etc.
145. Thinking about what the end of the world might be like.
146. Studying the stars and planets and learning to identify them.

147. Listening to the rain fall on the roof, or the wind blow through the trees.
148. Flirting.
149. Knowing an older person who likes to give me guidance and direction.

150. Being a philosopher, scientist, or professor.

Legend: L – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

51. Waiting for a falling star, white horse, or some other sign of success before I make an important decision.
52. Keeping my bureau drawers, desks, etc., in perfect order.
53. Spending most of my extra money on pleasure.

54. Learning how to repair such things as the radio, sewing machine, or car.
55. Thinking about different kinds of unusual behavior, like insanity, drug addition, crime, etc.
56. Studying wind conditions and changes in atmospheric pressure in order to better understand and predict the weather.

57. Eating after going to bed.
58. Watching a couple who are crazy about each other.
59. Working for someone who always tells me exactly what to do and how to do it.

60. Finding the meaning of unusual or rarely used words.
61. Being polite or humble no matter what happens.
62. Setting higher standards for myself than anyone else would, and working hard to achieve them.

63. Admitting when I'm in the wrong.
64. Leading an active social life.
65. Doing something that might provoke criticism.

66. Rearranging the furniture in the place where I live.
67. Putting off something I don't feel like doing, even though I know it has to be done.
68. Having to struggle hard for something I want.

69. Listening to a successful person tell about his experience.
70. Getting my friends to do what I want to do.
71. Taking an active part in social and political reform.

72. Avoiding excitement or emotional tension.
73. Staying up all night when I'm doing something that interests me.
74. Speaking at a club or group meeting.

75. Imagining myself president of the United States.

76. Crossing streets only at the corner and with the light.
77. Listening to TV or radio programs about political and social problems.
78. Being in a situation that requires quick decisions and action.

79. Pausing to look at myself in a mirror each time I pass one.
80. Helping to collect money for poor people.
81. Paying no attention to omens, signs, and other forms of superstition.

82. Keeping an accurate record of the money I spend.
83. Dropping out of a crowd that spends most of its time playing around or having parties.
84. Helping to direct a fund drive for the Red Cross, Community Chest, or other organizations.

85. Imagining life on other planets.
86. Reading articles which tell about new scientific developments, discoveries, or inventions.
87. Chewing on pencils, rubber bands, or paper clips.

88. Talking about who is in love with whom.
89. Being a lone wolf, free of family and friends.
90. Spending my time thinking about and discussing complex problems.

91. Trying to figure out how I was to blame after getting into an argument with someone.
92. Competing with others for a prize or goal.
93. Being ready with an excuse or explanation when criticized.

94. Meeting a lot of people.
95. Arguing with an instructor or superior.
96. Being generally consistent and unchanging in my behavior.

97. Going to a party where all the activities are planned.
98. Doing a job under pressure.
99. Going along with a decision made by a supervisor or leader rather than starting an argument.

100. Organizing groups to vote in a certain way in elections.

APPENDIX VI

AI/HSCI SCALE RELIABILITIES ESTIMATED BY KUDER-RICARDSON FORMULA 20

		KR_{20}	
	Scale Name	AI	HSCI
1.	Abasement-Assurance	.485	.593
2.	Achievement	.652	.255
3.	Adaptability-Defensiveness	.467	.445
4.	Affiliation	.666	.642
5.	Aggression-Blame Avoidance	.617	.560
6.	Change-Sameness	.487	.265
7.	Conjunctivity-Disconjunctivity	.620	.597
8.	Counteraction-Inferiority Avoidance	.504	.319
9.	Deference-Restiveness	.521	.103
10.	Dominance-Tolerance	.657	.546
11.	Ego Achievement	.696	.489
12.	Emotionality-Placidity	.584	.269
13.	Energy-Passivity	.245	.570
14.	Exhibitionism-Inferiority Avoidance	.638	.455
15.	Fantasied Achievement	.663	.171
16.	Harm Avoidance-Risk Taking	.597	.297
17.	Humanities, Social Sciences	.751	.558
18.	Impulsiveness-Deliberation	.391	.178
19.	Narcissism	.633	.590
20.	Nurturance-Rejection	.746	.583
21.	Objectivity-Projectivity	.592	.690
22.	Order-Disorder	.791	.412
23.	Play-Work	.633	.411
24.	Practicalness-Impracticalness	.645	.405
25.	Reflectiveness	.620	.432
26.	Science	.634	.405
27.	Sensuality-Puritanism	.383	.330
28.	Sexuality-Prudishness	.763	.558
29.	Supplication-Autonomy	.598	.487
30.	Understanding	.680	.427

APPENDIX VII

AI AND HSCI FIRST-ORDER FACTOR AND SECOND-ORDER AREA RELIABILITIES ESTIMATED BY KUDER-RICHARDSON FORMULA 20

AI Factors		KR_{20}[a]
1.	Achievement Motivation	.744
2.	Emotionality	.748
3.	Independence-Dependence	.861
4.	Unassertiveness-Dominance	.850
5.	Intellectuality	.875
6.	Individuality	.843
7.	Exertiveness-Submissiveness	.678
AI Areas		
I.	Dependency Needs	.911
II.	Intellectual Orientation	.884
III.	Emotional Expression	.823

HSCI Factors		KR_{20}[b]
1.	Group Life	.826
2.	Normative Control	.737
3.	Orderliness	.618
4.	Intellectual Climate	.808
5.	Personal Dignity	.843
6.	Individualized Achievement	.485
HSCI Areas		
I.	Development Press	.912
II.	Control Press	.963

APPENDIX VIII

AI SCALE INTERCORRELATIONS
N=462

	Scale Abbs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Abb-Ass		107	264	134	-102	-065	246	044	387	-045	148	191	020	191	131
2	Ach			057	166	070	-044	371	413	209	258	313	-008	289	224	322
3	Ada-Dfs				172	-276	058	137	209	278	-224	-017	031	128	-050	-186
4	Aff					-102	164	125	086	206	080	102	211	166	293	054
5	Agg-Bla						058	-211	-100	-341	412	206	002	-086	247	246
6	Cha-Sam							-308	-050	-071	057	133	310	184	069	-043
7	Chj-Dsj								239	429	046	191	-070	071	104	174
8	Ctr									193	-001	110	-061	247	-063	017
9	Dfr-Rst										-095	044	075	132	012	053
10	Dom-Tol											524	064	123	415	412
11	E/A												139	123	422	360
12	Emo-Pl													077	184	014
13	Eny-Pas														056	052
14	Exh-Inf															358
15	F/A															

APPENDIX VIII--Continued

	Scale Abbs	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Abb-Ass	113	197	-033	267	368	-156	248	-044	135	226	051	181	298	237	127
2	Ach	-038	338	-035	035	204	-003	189	-216	377	269	375	068	020	171	476
3	Ada-Drs	077	101	-078	-084	207	043	121	-110	059	023	009	009	029	142	094
4	Aff	019	-012	113	312	398	-048	196	330	195	112	-053	191	368	338	-103
5	Agg-Bla	-282	-013	252	021	-117	-051	-247	190	-015	090	044	141	-043	-132	-003
6	Cha-Sam	-136	089	267	160	214	068	226	149	028	176	-053	320	130	004	107
7	Chj-Dsj	277	286	-276	142	212	-189	552	-280	304	142	314	-107	152	306	304
8	Ctr	024	193	-086	-121	146	154	153	-171	201	112	234	-053	-039	107	316
9	Dfr-Rst	208	220	-159	239	353	-120	391	-166	174	184	093	006	210	367	223
10	Dom-Tol	-125	169	163	150	066	-025	-051	137	258	244	226	172	081	172	289
11	E/A	-024	521	095	155	279	-064	036	-084	334	355	405	175	104	172	434
12	Emo-Pl	066	167	355	337	420	-118	025	117	-004	319	-125	395	484	258	110
13	Eny-Pas	126	084	080	-006	219	135	060	000	226	168	142	050	014	164	269
14	Exh-Inf	-065	242	166	255	176	-187	146	072	240	173	190	245	283	176	112
15	F/A	-097	213	055	299	058	-239	145	051	347	301	391	160	208	119	207

APPENDIX VIII--Continued

Scale	Abbs	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
16	Har-Rsk		122	-226	139	136	-075	263	-243	-055	032	015	-148	151	179	091
17	Hum			-034	125	291	006	136	-310	354	476	449	149	076	189	513
18	Imp-Del				114	139	-014	-194	253	-022	170	-157	268	138	059	-003
19	Nar					391	-230	259	135	117	345	022	383	539	327	102
20	Nur						-078	259	025	263	414	102	330	459	471	286
21	Obj-Pro							-254	028	-043	019	028	-066	-278	013	095
22	Ord								-229	270	058	171	004	296	218	131
23	Ply-Wk									-129	-033	-218	168	177	066	-246
24	Pra-Imp										323	484	082	130	180	408
25	Ref											370	330	288	313	468
26	Sci												018	-028	083	518
27	Sen-Pr													371	202	111
28	Sex														360	057
29	Sup															241
30	Und															

APPENDIX IX

AI PRINCIPAL AXIS FACTOR MATRIX

Scale	Abbs	1	2	3	4	5	6	7	h^2
1	Abb-Ass	.437	-.062	-.347	-.088	-.090	-.401	-.269	.564
2	Ach	.537	-.261	.346	.093	.217	-.073	.134	.555
3	Ada-Dfs	.158	-.375	-.323	.393	.097	-.437	-.334	.671
4	Aff	.373	.249	-.371	.074	.519	.094	-.154	.646
5	Agg-Bla	-.013	.462	.510	-.221	.023	-.065	-.113	.540
6	Cha-Sam	.128	.469	-.006	.471	-.153	-.108	.152	.516
7	Chj-Dsj	.500	-.547	-.123	-.276	.123	.076	-.009	.661
8	Ctr	.279	-.387	.125	.368	.269	-.023	.101	.462
9	Dfr-Fst	.457	-.365	-.418	.032	.072	-.063	-.022	.528
10	Dom-Tol	.387	.319	.511	-.197	.164	.235	-.233	.688
11	E/A	.591	.109	.427	-.035	-.119	-.020	-.356	.686
12	Emo-Pl	.369	.476	-.326	.183	-.295	.002	.071	.593
13	Eny-Pas	.296	-.040	.102	.462	.389	.006	.247	.525
14	Exh-Inf	.473	.317	.164	-.309	.162	-.172	-.338	.617
15	F/A	.473	.145	.356	-.436	.118	-.060	.196	.617
16	Har-Rsk	.139	-.347	-.362	-.160	-.348	.423	-.158	.621
17	Hum	.605	-.185	.256	.132	-.410	-.059	-.167	.683
18	Imp-Del	.079	.603	.053	.203	-.002	-.099	.053	.426
19	Nar	.504	.347	-.340	-.263	-.100	.156	.200	.634
20	Nur	.652	.138	-.362	.237	-.023	.027	-.041	.634
21	Obj-Pro	-.177	-.074	.187	.572	.069	.386	-.212	.597
22	Ord	.430	-.384	-.336	-.341	.149	-.044	.194	.623
23	Ply-Wk	-.118	.593	-.118	-.005	.433	.151	-.074	.596
24	Pra-Imp	.578	-.162	.265	.001	.198	-.081	.174	.506
25	Ref	.646	.158	.123	.182	-.292	.119	.125	.606
26	Sci	.501	-.302	.480	-.049	-.068	-.014	.129	.596
27	Sen-Pr	.382	.525	-.103	.110	-.148	-.163	.144	.513
28	Sex	.504	.348	-.469	-.196	-.019	.050	.153	.660
29	Sup	.548	.037	-.311	.083	.143	.387	-.199	.615
30	Und	.620	-.227	.337	.277	-.177	.131	.058	.678
Eigenvalues		5.755	3.442	3.025	2.055	1.487	1.089	1.007	
Percent of Variance		.192	.307	.407	.476	.525	.562	.595	

APPENDIX X

AI FIRST ORDER FACTOR INTERCORRELATIONS

AI Factor	1	2	3	4	5	6	7
1 Achievement Motivation		-.12	-.21	-.20	-.53	-.15	-.44
2 Emotionality			-.22	-.16	.08	-.06	.11
3 Independence-Dependence				.17	.19	.70	.41
4 Unassertiveness-Dominance					.36	.37	-.10
5 Intellectuality						.22	.24
6 Individuality							.29
7 Exertiveness-Submissiveness							

APPENDIX XI

AI PRINCIPAL AXIS SECOND ORDER AREA MATRIX

AI Factor	I	II	III	h^2
1 Achievement Motivation	.638	.530	-.166	.716
2 Emotionality	.066	-.694	-.087	.494
3 Independence-Dependence	-.745	.385	-.386	.853
4 Unassertiveness-Dominance	-.471	.317	.694	.805
5 Anti-Intellectuality	-.633	-.349	.471	.744
6 Individuality	-.740	.394	-.176	.734
7 Exertiveness-Submissiveness	-.600	-.357	-.531	.770
Eigenvalues	2.499	1.416	1.200	
Percent of Variance	.357	.559	.731	

APPENDIX XII

HSCI SCALE INTERCORELATIONS
N=462

	Scale Abbs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Abb-Ass		-206	404	158	242	107	454	233	227	324	-220	-110	-301	-162	-131
2	Ach			-052	284	-140	058	263	207	087	-002	252	157	311	235	118
3	Ada-Dfs				012	246	-035	-188	058	174	336	-052	060	-032	114	-061
4	Aff					-143	-004	313	175	030	-044	328	193	428	427	077
5	Agg-Bla						157	-268	018	-038	259	-047	089	-179	-060	-005
6	Cha-Sam							083	136	-118	-006	164	088	128	141	086
7	Chy-Dsj								304	012	-076	483	204	262	310	287
8	Ctr									-204	-016	240	201	246	200	113
9	Dfr-Rst										125	-047	-043	051	039	012
10	Dom-Tol											-007	068	-031	065	-070
11	E/A												236	365	323	205
12	Emo-Pl													287	260	076
13	Eny-Pas														479	171
14	Exh-Inf															157
15	F/A															

APPENDIX XII.--Continued

	Scale Abbs	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Abb-Ass	-045	300	-144	092	-211	-670	115	-170	-067	-286	-173	-268	040	-393	-350
2	Ach	081	278	-059	116	249	221	120	087	127	181	215	149	111	169	320
3	Ada-Drs	-028	-086	-058	209	034	-418	154	066	162	-057	-014	-079	119	-154	-115
4	Aff	066	272	086	327	393	221	137	497	277	182	343	261	280	290	266
5	Agg-Bla	-138	-085	112	101	-080	-309	-203	-005	081	-045	-155	-080	222	-208	-146
6	Cha-Sam	005	120	030	-022	050	100	-058	111	039	142	110	150	103	048	115
7	Chj-Dsj	094	292	048	253	335	483	204	262	310	287	409	228	153	375	434
8	Ctr	-026	229	178	041	259	292	-096	186	156	244	101	256	045	192	248
9	Dfr-Rst	100	-036	-209	270	118	-181	257	-026	123	-074	100	-038	079	005	-038
10	Dom-Tol	-121	-047	001	220	-028	344	110	056	276	-026	-106	-102	264	-150	-043
11	E/A	205	085	423	149	178	347	216	063	239	268	425	327	285	211	360
12	Emo-Pl	-032	145	074	143	288	066	012	167	198	242	145	105	168	155	159
13	Eny-Pas	154	388	064	364	522	313	190	320	304	370	402	247	171	431	460
14	Exh-Inf	084	376	092	358	456	186	150	379	279	362	344	250	251	280	319
15	F/A	081	228	130	024	192	094	-044	061	029	242	196	209	032	067	249

APPENDIX XII--Continued

	Scale Abbs	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
16	Har-Rsk		103	-082	070	170	060	178	-042	-039	121	135	057	-069	151	134
17	Hum			147	147	348	243	066	182	103	511	417	378	091	275	439
18	Imp-Del				-087	069	124	-170	122	150	141	037	165	158	-022	076
19	Nar					325	-024	333	251	362	179	260	034	282	108	192
20	Nur						217	162	329	261	377	381	254	228	384	403
21	Obj-Pro							-087	151	113	333	183	239	-015	415	357
22	Ord								075	154	079	206	-056	141	052	118
23	Ply-Wk									299	154	243	249	237	240	197
24	Pra-Imp										208	203	078	329	173	201
25	Ref											341	276	151	255	367
26	Sci												326	092	252	423
27	Sen-Pr													055	251	306
28	Sex														028	100
29	Sup															367
30	Und															

APPENDIX XIII

HSCI PRINCIPAL AXIS FACTOR MATRIX

Scale	Abbs	1	2	3	4	5	6	h2
1	Abb-Ass	.514	.593	.033	.221	-.125	.069	.686
2	Ach	-.441	.007	.133	.077	.315	.123	.332
3	Ada-Dfs	.118	.646	-.103	.133	-.045	.282	.542
4	Aff	-.594	.199	.051	-.258	-.406	.088	.635
5	Agg-Bla	.225	.322	-.594	.135	.099	.079	.541
6	Cha-Sam	-.191	-.049	-.326	.181	.204	.172	.249
7	Chj-Dsj	-.660	-.118	.183	-.260	.208	-.173	.623
8	Ctr	-.419	-.114	-.353	-.079	.189	.313	.453
9	Dfr-Rst	.006	.426	.463	.139	-.003	-.114	.426
10	Dom-Tol	.090	.622	-.215	-.040	.292	-.129	.545
11	E/A	-.597	.054	-.186	.191	.048	-.127	.448
12	Emo-Pl	-.355	.174	-.253	-.025	.191	.379	.402
13	Eny-Pas	-.735	.100	.119	-.034	.046	.133	.585
14	Exh-Inf	-.634	.254	-.074	.012	-.142	.143	.515
15	F/A	-.289	-.090	-.139	.477	-.108	-.229	.403
16	Har-Rsk	-.174	-.043	.385	.349	-.020	.120	.317
17	Hum	-.622	-.079	-.087	.388	-.031	-.099	.562
18	Imp-Del	-.172	-.098	-.532	-.064	-.235	-.404	.544
19	Nar	-.390	.555	.261	-.117	.008	-.085	.549
20	Nur	-.669	.134	.065	.039	-.071	.200	.532
21	Obj-Pro	-.539	-.569	.039	-.291	.153	-.084	.731
22	Ord	-.189	.391	.519	.034	.127	-.150	.498
23	Ply-Wk	-.437	.219	-.157	-.342	-.442	.115	.634
24	Pra-Imp	-.418	.425	-.134	-.323	.184	-.247	.573
25	Ref	-.604	-.043	-.154	.308	.170	-.114	.527
26	Sci	-.601	.075	.174	.253	-.181	-.110	.506
27	Sen-Pr	-.487	-.158	-.176	.220	-.345	.018	.461
28	Sex	-.284	.467	-.266	-.199	.073	-.303	.506
29	Sup	-.561	-.196	.178	-.174	.003	.234	.470
30	Und	-.664	-.101	.053	.168	.163	-.076	.514
Eigenvalue		6.624	2.995	2.059	1.453	1.114	1.067	
Percent of Variance		.221	.321	.390	.438	.475	.510	

APPENDIX XIV

A COMPARISON OF FIVE FACTOR ANALYSES OF THE HSCI

Scale	Intellectual Climate					Group Life				Personal Dignity					Academic Achievement		Orderliness					Practicalness		
Abbs	a	b	c	d	e	a	a	b	e	a	b	c	d	e	a	e	a	b	c	d	e	a	b	c
Hum	71	76	75	78	66																			
F/A	68	51			63																			
Ref	62	73	76	73	58																			
E/A	52	63	75	64	51																			
Sci	44	68	58	71	52																	40		
Nur	43	59	60	45			40	50	50															
Und	42	60	56	62	46	40							33		44									
Sen-Pr	40	55	48	37	50	40		44	40		31													
Chg-Sm			31			75										42								
Emo-Plc						44	42	48								58			-44					
Egy-Pas						42		44	44						50								32	
Sup-Aut						39		35		38	43	47	52	44										
Ply-Wk							87	80	75										-38				74	36
Aff							77	69	75														62	
Exh-Inf							49	58	53														53	39
Ass-Aba										74	73	72	77	75										
Obj-Pro										71	68	77	78	81										
Dfs-Ada										70	69	65	69	64										
Bla-Agg										62	64	71	37	52				38		35				
Tol-Dom										48	58	49	48	39								-51		-56
Ach															68	39								
Conj-Dsj											32	49	44	62	54			37					32	
Narc															52					32	48		44	53
Ctr															40	58								
Ord-Dso															38		52	64	49	50	65			44
Dfr-Rst																	71	60		77	57			
Del-Imp																	60	38	70	53	-55			
Har-Rsk											36		33				50	42		46	41			
Pra-Imp																		32				71	42	63
Sex-Pru											-34											69	45	73

Notes: Subscripts refer to studies reported in the text: (a) G. G. Stern (1970) analysis of twelve schools; (b,c) H. R. Kight and E. L. Herr (1966) analysis of one school; (d) J. V. Mitchell (1968) analysis of eleven schools; (e) (1972) analysis of thirteen schools in the present study.

APPENDIX XV

HSCI FIRST-ORDER FACTOR CORRELATION MATRIX

HSCI Factor	1	2	3	4	5	6
1 Disassociation-Group Life		-.38	-.24	-.67	-.42	-.46
2 Normative Control			.42	.20	-.10	.19
3 Orderliness				.11	.01	-.01
4 Intellectual Climate					.45	.46
5 Personal Dignity						.27
6 Individualized Achievement						

APPENDIX XVI

HSCI PRINCIPAL AXIS SECOND ORDER AREA MATRIX

HSCI Factor	I	II	h^2
1 Disassociation-Group Life	.878	.031	.772
2 Normative Control	-.458	-.724	.734
3 Orderliness	-.318	-.729	.633
4 Intellectual Climate	-.827	.195	.722
5 Personal Dignity	-.575	.501	.581
6 Individualized Achievement	-.664	.214	.487
Eigenvalues	2.537	1.391	
Percent of Variance	.423	.655	

APPENDIX XVII

JOINT AI-HSCI FACTOR INTERCORRELATIONS
13 SCHOOLS, N=461

	1	2	3	4	5	6	7	8	9	10	11	12	13
1		-122	-206	-193	-526	-150	-437	-120	013	063	202	215	077
2			-223	-163	081	-057	111	051	109	-068	-031	-193	-025
3				172	185	697	410	232	-384	-170	-175	002	-256
4					359	368	-109	074	-151	-014	-102	127	-019
5						214	228	040	-081	-079	-193	-072	-024
6							289	304	-371	-200	-223	046	-239
7								254	-098	-151	-238	-207	-149
8									-375	-245	-665	-428	-459
9										428	190	-092	187
10											119	005	011
11												453	457
12													281
13													

APPENDIX XVIII

JOINT AI-HSCI FACTOR INTERCORRELATIONS
26 HIGH AND LOW ABILITY GROUPS

	1	2	3	4	5	6	7	8	9	10	11	12	13
1		-157	-199	-517	-716	-013	-323	-078	-112	-217	259	568	-071
2			303	317	351	668	161	289	-180	-417	-313	034	091
3				-135	062	725	684	337	-570	-454	-129	058	-227
4					718	058	-032	344	-071	041	463	-253	154
5						-013	076	007	140	187	-325	-407	068
6							506	521	-552	-669	-271	221	-031
7								597	-354	-314	-434	-306	-321
8									-510	-512	-708	-286	-357
9										762	016	-373	-096
10											087	-267	-058
11												533	592
12													281
13													

APPENDIX XIX

JOINT AI-HSCI PRINCIPAL AXIS FACTOR MATRIX
13 Schools

Factor		I	II	III	IV	V	h^2
AI 1	Achievement Motivation	.464	-.053	.708	.060	-.004	.723
AI 2	Emotionality	.012	.443	-.276	-.411	-.249	.503
AI 3	Independence-Dependence	-.657	-.441	.074	-.059	.445	.836
AI 4	Unassertiveness-Dominance	-.291	-.482	-.225	.579	-.402	.799
AI 5	Anti-Intellectuality	-.416	-.164	-.674	.107	-.271	.739
AI 6	Individuality	-.669	-.460	.072	.030	.175	.697
AI 7	Exertiveness-Submissiveness	-.549	.105	-.313	-.400	.460	.783
HSCI 1	Disassociation-Group life	-.710	.352	.344	.074	-.167	.779
HSCI 2	Normative Control	.516	.354	-.414	.247	.277	.701
HSCI 3	Orderliness	.358	.164	-.211	.614	.447	.776
HSCI 4	Intellectual Climate	.670	-.428	-.133	-.261	.150	.740
HSCI 5	Personal Dignity	.367	-.705	.066	-.090	-.005	.644
HSCI 6	Individualized Achievement	.533	-.308	-.290	-.304	-.161	.581
Eigenvalue		3.420	1.927	1.632	1.229	1.094	
Percent of Variance		.263	.411	.537	.631	.715	

APPENDIX XX

JOINT AI-HSCI PRINCIPAL AXIS FACTOR MATRIX
26 High and Low Ability Groups

	Factor	I	II	III	IV	h^2
AI 1	Achievement Motivation	-.281	.714	-.289	-.461	.723
AI 2	Emotionality	.579	-.022	.468	-.183	.503
AI 3	Independence-Dependence	.723	.273	-.051	.546	.836
AI 4	Unassertiveness-Dominance	.311	-.611	.510	-.362	.799
AI 5	Anti-Intellectuality	.237	-.7 7	.487	.127	.739
AI 6	Individuality	.810	.364	.182	.046	.697
AI 7	Exertiveness-Submissiveness	.743	-.047	-.325	.413	.783
HSCI 1	Disassociation-Group Life	.813	-.059	-.251	-.365	.779
HSCI 2	Normative Control	-.616	-.541	-.179	.024	.701
HSCI 3	Orderliness	-.646	-.560	-.148	.183	.776
HSCI 4	Intellectual Climate	-.620	.520	.331	.391	.740
HSCI 5	Personal Dignity	-.183	.782	.359	-.100	.644
HSCI 6	Individualized Achievement	-.284	.216	.795	.095	.581
Eigenvalues		4.254	3.175	1.929	1.203	
Percent of Variance		.327	.571	.720	.812	

APPENDIX XXI

MALE AI MEANS AND STANDARD DEVIATIONS BY THREE CLASSIFICATIONS SES N=238

		Mean	Standard Deviation
1	Achievement Motivation	27.30	6.35
2	Emotionality	26.26	5.93
3	Independence-Dependence	31.02	8.51
4	Unassertiveness-Dominance	25.72	7.65
5	Anti-Intellectuality	26.71	9.16
6	Individuality	31.03	7.42
7	Exertiveness-Submissiveness	16.75	4.31
I	Dependency Needs	61.21	16.83
II	Intellectual Orientation	50.58	13.58
III	Emotional Expression	62.71	12.39
	SES	2.29	0.79

APPENDIX XXII

FEMALE AI MEANS AND STANDARD DEVIATIONS BY THREE CLASSIFICATIONS SES
N=218

		Mean	Standard Deviation
1	Achievement Motivation	26.45	6.52
2	Emotionality	31.72	5.90
3	Independence-Dependence	21.79	8.08
4	Unassertiveness-Dominance	29.58	8.34
5	Anti-Intellectuality	27.59	8.57
6	Individuality	26.96	7.86
7	Exertiveness-Submissiveness	15.32	4.39
I	Dependency Needs	75.93	16.44
II	Intellectual Orientation	48.87	13.25
III	Emotional Expression	62.55	13.02
	SES	2.38	0.83

APPENDIX XXIII

TWO WAY ANOVA MALE AI FACTOR AND AREA MEANS AND S.D. BY ABILITY GROUP AND SCHOOL

N=240

School		AI 1		AI 2		AI 3		AI 4		AI 5	
		High	Low	High	Low	High	Low	High	Low	High	Low
121	x	27.80	25.00	24.67	25.27	29.33	28.18	22.87	28.09	21.87	26.27
	sd	8.25	5.93	6.87	5.20	7.99	9.99	8.08	7.23	8.61	7.77
131	x	30.75	28.00	26.08	23.50	27.75	25.75	24.67	25.75	24.00	24.13
	sd	8.14	5.18	3.90	3.46	7.79	7.11	10.41	7.01	9.98	8.32
132	x	30.17	27.00	24.50	26.38	25.67	22.63	25.50	24.63	20.17	23.88
	sd	7.13	4.90	4.21	5.21	7.48	3.46	9.19	5.15	11.16	6.13
211	x	28.44	29.78	25.33	25.89	41.67	29.00	25.11	21.56	23.11	23.67
	sd	2.24	4.29	5.17	5.25	5.85	6.87	6.19	6.65	9.61	9.23
212	x	26.45	28.67	28.27	29.67	35.45	30.00	25.36	25.83	24.91	29.17
	sd	6.68	3.83	3.98	5.43	9.81	11.66	9.21	5.19	5.84	7.78
221	x	22.78	20.00	26.89	25.50	36.11	37.17	25.67	33.00	25.67	38.00
	sd	9.55	5.73	9.88	4.85	9.18	11.13	8.59	9.19	6.58	9.36
222	x	26.17	26.29	26.17	29.00	29.67	30.86	23.50	29.71	25.00	37.43
	sd	5.98	6.47	11.69	4.28	6.31	8.11	10.37	9.16	9.92	2.51
231	x	28.27	23.78	28.18	27.56	28.45	33.56	25.64	28.00	28.73	35.00
	sd	7.35	3.38	6.46	3.97	6.07	8.22	10.09	6.86	11.01	9.33
232	x	27.38	25.80	25.31	25.60	33.56	32.80	26.19	30.00	27.25	31.80
	sd	4.79	8.58	6.33	2.97	4.97	10.11	5.04	9.80	7.65	7.66
311	x	25.40	28.27	27.40	26.91	30.80	29.27	26.50	23.82	30.90	25.91
	sd	7.93	4.92	7.63	5.09	9.21	5.29	4.45	5.56	14.07	5.75
312	x	30.64	25.14	26.64	25.86	30.79	32.00	23.86	26.29	21.14	25.00
	sd	5.23	3.02	9.39	3.18	10.39	2.52	8.98	3.04	7.67	7.30
313	x	28.60	26.80	26.20	25.60	44.40	29.40	30.20	28.80	29.60	30.80
	sd	6.84	3.56	10.28	3.21	10.41	6.54	8.98	6.30	6.66	1.79
321	x	27.70	28.29	26.60	25.71	29.10	30.14	29.90	25.43	28.90	31.57
	sd	5.93	6.50	5.16	3.09	5.24	5.84	6.92	5.26	5.97	6.88

APPENDIX XXIII--Continued

School		AI 6		AI 7		AI I		AI II		AI III	
		High	Low	High	Low	High	Low	High	Low	High	Low
121	x	30.53	26.64	18.73	16.45	61.40	68.73	55.93	48.73	59.47	66.36
	sd	6.32	8.86	4.15	4.08	11.64	21.22	15.17	12.85	14.66	8.66
131	x	29.92	23.78	16.25	14.38	66.08	76.00	56.75	53.88	62.33	67.88
	sd	7.61	5.38	2.95	1.77	15.19	11.26	16.80	11.99	12.03	7.16
132	x	29.67	23.00	13.92	15.50	70.75	78.88	60.00	53.13	67.08	62.75
	sd	7.33	2.27	3.90	4.04	14.93	5.54	16.06	8.44	12.04	9.85
211	x	40.22	23.11	18.89	15.89	39.22	72.00	55.33	56.11	60.89	59.78
	sd	4.49	6.01	5.09	3.59	9.87	14.91	9.96	12.80	13.17	8.58
212	x	34.82	29.10	19.35	17.00	50.36	63.50	51.55	49.50	57.23	59.17
	sd	6.31	5.75	3.59	4.86	16.89	20.02	11.49	10.45	11.11	12.69
221	x	36.89	36.07	21.33	18.33	45.67	48.33	47.11	32.00	57.44	69.17
	sd	7.58	11.16	4.95	6.62	17.95	28.37	14.55	13.97	18.80	9.40
222	x	34.17	31.43	14.33	15.29	61.83	62.43	51.16	38.86	63.00	65.43
	sd	5.23	6.97	2.73	3.90	12.21	14.55	13.27	5.81	22.65	15.68
231	x	28.82	29.11	17.27	17.11	65.45	60.22	49.55	38.78	60.18	63.33
	sd	6.69	6.11	4.15	4.20	14.62	15.76	17.35	10.91	15.14	8.97
232	x	34.19	31.60	18.25	16.00	54.00	59.60	50.13	44.00	62.61	68.40
	sd	5.28	8.44	4.80	2.92	10.42	18.58	9.36	13.25	10.81	9.76
311	x	30.90	26.91	19.40	14.64	59.90	69.18	44.50	52.36	59.70	62.27
	sd	6.54	6.06	3.85	2.87	16.07	10.08	19.57	7.72	11.26	5.48
312	x	32.64	30.00	16.57	14.43	60.00	63.57	59.50	50.14	60.64	66.00
	sd	6.67	5.60	4.03	2.76	18.61	8.36	11.68	9.17	17.77	4.90
313	x	38.80	33.80	15.80	12.60	41.00	64.20	49.00	46.00	68.20	70.60
	sd	7.09	6.57	4.92	3.78	19.94	13.39	12.65	4.64	17.61	7.54
321	x	33.20	29.71	16.30	14.57	61.40	65.57	48.80	46.71	61.00	65.14
	sd	5.79	4.23	4.95	3.46	11.42	10.01	9.61	12.91	14.12	7.10

APPENDIX XXIV

TWO WAY ANOVA FEMALE AI FACTOR AND AREA MEANS AND S.D. BY ABILITY GROUP AND SCHOOL
N=219

School		AI 1		AI 2		AI 3		AI 4		AI 5	
		High	Low	High	Low	High	Low	High	Low	High	Low
12	x	25.20	26.0	35.1	33.00	27.40	16.75	29.90	20.75	28.50	24.75
	sd	6.49	5.7	3.8	4.16	7.06	4.11	8.29	6.40	8.70	2.22
13	x	25.23	20.9	29.2	27.92	21.08	23.31	32.69	32.77	26.23	33.92
	sd	4.71	6.5	4.6	5.96	8.83	6.82	7.50	4.69	6.67	6.08
132	x	28.11	31.4	27.0	26.20	17.89	15.80	25.56	33.00	23.89	24.40
	sd	4.51	3.9	5.1	4.82	6.88	5.97	10.91	8.22	6.41	12.50
21	x	25.00	22.0	38.6	26.00	22.00	31.00	21.40	34.00	27.40	32.00
	sd	3.19	0.0	3.6	0.00	6.52	0.00	7.89	0.00	10.71	0.00
21	x	32.50	27.64	32.0	29.50	22.17	21.86	27.17	29.57	21.33	29.21
	sd	4.42	5.54	3.1	6.80	8.26	7.13	11.20	7.55	10.54	8.51
22	x	27.04	24.2	32.5	35.00	22.59	20.80	30.22	24.20	23.30	33.00
	sd	6.25	4.6	6.9	7.07	6.42	5.07	7.76	10.31	7.41	5.83
22	x	30.78	26.23	31.3	31.77	18.67	16.77	25.44	30.23	23.22	30.08
	sd	4.12	6.93	5.4	6.14	6.12	7.20	11.05	4.51	8.27	10.47
23	x	25.78	22.83	32.5	27.00	21.11	26.83	30.22	36.17	30.56	32.50
	sd	8.44	5.82	4.7	2.61	9.08	5.74	8.51	5.49	9.59	6.16
23	x	25.64	28.83	31.7	31.67	26.45	16.17	31.09	29.00	26.27	32.00
	sd	8.45	7.00	4.0	4.80	7.59	4.17	7.15	8.15	8.61	8.25
31	x	25.00	19.75	34.00	33.25	20.75	19.50	29.75	29.63	23.50	35.13
	sd	3.56	3.62	8.8	3.49	10.14	5.88	6.55	9.61	12.45	4.58
31	x	28.80	28.83	31.2	29.17	19.00	20.67	31.00	25.00	26.20	22.00
	sd	4.97	6.85	2.9	2.71	10.34	8.43	9.11	7.72	7.33	9.96
31	x	25.63	26.00	35.1	36.50	22.88	29.17	28.38	30.67	30.00	30.00
	sd	5.32	5.4	7.2	3.62	10.05	11.48	8.80	10.42	6.95	7.87
32	x	25.73	24.4	33.3	33.80	29.91	17.00	32.18	30.00	25.00	28.20
	sd	9.57	6.35	7.1	5.36	11.60	7.18	10.16	9.06	8.74	6.98

APPENDIX XXIV--Continued

School		AI 6		AI 7		AI I		AI II		AI III	
		High	Low	High	Low	High	Low	High	Low	High	Low
121	x	30.90	21.50	18.10	11.50	63.60	90.25	46.70	51.25	59.70	56.25
	sd	5.22	4.20	4.41	2.52	11.08	4.99	11.32	6.45	13.61	6.85
131	x	25.00	24.15	14.77	15.77	79.15	76.77	50.00	37.00	68.69	69.08
	sd	5.80	5.71	3.75	3.59	16.57	14.01	8.48	10.86	11.22	8.29
132	x	21.67	19.80	16.67	12.00	83.78	92.40	54.32	57.00	61.89	74.80
	sd	4.95	8.56	4.09	1.58	10.26	14.81	9.82	15.81	15.32	7.98
211	x	29.20	17.00	16.60	17.00	72.20	75.00	48.60	40.00	46.20	71.00
	sd	4.66	0.00	4.22	0.00	12.26	0.00	17.21	0.00	8.93	0.00
212	x	29.67	27.91	12.17	15.29	76.00	74.93	61.17	48.43	63.00	64.79
	sd	8.19	6.16	3.13	4.20	14.99	12.41	14.44	12.99	13.43	12.79
221	x	29.85	24.60	16.04	16.40	71.52	78.20	53.74	41.20	61.59	52.80
	sd	8.60	7.30	4.48	4.34	14.20	10.06	10.43	9.01	14.40	16.48
222	x	26.56	23.46	12.33	13.85	82.44	85.92	57.56	46.15	61.78	64.62
	sd	7.43	5.81	5.24	5.89	13.65	16.18	10.92	16.42	16.22	9.95
231	x	27.56	28.67	16.78	17.17	74.56	67.33	45.22	40.33	60.89	72.00
	sd	8.86	8.52	4.27	4.49	19.44	13.87	16.39	9.63	12.18	9.03
232	x	30.91	22.31	16.62	12.33	66.00	89.17	49.36	46.83	59.73	65.00
	sd	7.82	8.04	4.76	3.08	15.29	10.23	16.19	14.54	11.49	11.58
311	x	28.25	23.63	11.75	17.38	79.25	79.50	52.50	34.63	64.00	59.00
	sd	13.84	4.93	5.12	3.38	28.78	7.58	14.89	4.72	10.49	14.99
312	x	28.80	21.83	15.00	14.00	77.20	83.50	52.60	56.83	64.80	61.83
	sd	12.97	6.31	5.48	3.58	26.17	17.07	11.67	16.70	9.96	5.91
313	x	29.38	36.17	15.75	16.33	72.00	58.33	46.63	46.00	57.50	57.83
	sd	7.63	4.54	5.37	2.58	21.02	14.96	11.61	7.13	15.87	15.05
321	x	32.09	20.27	15.82	15.80	64.18	87.00	50.73	46.20	63.00	60.40
	sd	7.84	5.22	4.49	2.77	20.20	11.55	15.62	12.85	15.63	13.94

APPENDIX XXV

HSCI FACTOR AND AREA MEANS AND STANDARD DEVIATIONS BY THREE CLASSIFICATIONS STUDENT SES
N=462

	Factor and Area	Mean	Standard Deviation
HSCI 1	Disassociation-Group Life	35.00	7.98
HSCI 2	Normative Control	22.45	5.45
HSCI 3	Orderliness	20.43	5.03
HSCI 4	Intellectual Climate	30.61	8.45
HSCI 5	Personal Dignity	27.80	8.50
HSCI 6	Individualized Achievement	21.11	3.88
HSCI I		125.48	22.62
HSCI II		47.11	8.86

APPENDIX XXVI

TWO WAY ANOVA HSCI FACTOR AND AREA MEANS AND S.D. BY ABILITY GROUP AND SCHOOL
N=462

School		HSCI 1		HSCI 2		HSCI 3		HSCI 4	
		High	Low	High	Low	High	Low	High	Low
121	x	37.44	35.40	20.48	22.60	19.80	19.80	32.16	30.27
	sd	7.67	5.08	3.69	6.84	3.67	3.61	7.55	5.65
131	x	35.64	32.82	19.56	22.77	20.80	23.45	30.48	33.32
	sd	8.13	7.42	4.85	4.61	4.73	4.64	6.76	7.69
132	x	34.24	30.77	23.14	25.00	19.90	24.69	31.86	34.38
	sd	5.34	4.62	5.91	3.58	4.29	4.82	6.30	6.84
211	x	32.57	27.10	21.00	22.60	17.14	23.00	35.21	34.80
	sd	7.83	5.67	5.05	5.95	3.61	2.75	11.55	5.07
212	x	38.83	36.74	22.00	23.26	18.89	17.47	27.94	28.53
	sd	7.69	6.17	5.19	6.42	5.50	4.19	7.19	7.20
221	x	39.53	35.53	21.58	22.25	18.75	22.25	28.83	27.83
	sd	6.56	4.10	4.84	5.05	4.16	5.29	10.01	8.05
222	x	27.80	31.15	26.93	26.70	24.20	22.85	33.93	26.80
	sd	7.33	7.54	5.32	4.94	4.96	3.39	9.52	6.46
231	x	37.15	36.20	24.70	22.60	22.25	22.87	29.10	28.07
	sd	10.34	6.66	4.11	5.75	4.36	4.77	9.37	6.25
232	x	39.44	33.45	22.67	25.91	22.22	23.45	23.15	32.27
	sd	7.11	9.04	4.10	6.02	4.24	5.47	8.05	10.05
311	x	32.79	31.05	25.14	25.53	20.57	22.74	30.86	32.21
	sd	8.92	6.11	4.00	4.91	5.18	3.45	10.65	5.83
312	x	37.58	28.92	18.74	24.17	15.47	23.58	31.74	37.17
	sd	8.23	8.44	4.83	4.55	3.95	4.74	8.89	6.74
313	x	38.23	31.27	17.08	18.55	17.23	16.64	30.92	34.82
	sd	5.63	10.43	4.03	6.44	4.62	6.92	7.14	12.65
321	x	38.62	31.36	19.10	22.57	16.29	19.29	28.52	33.29
	sd	5.90	8.80	5.03	4.83	4.66	4.46	5.59	7.85

APPENDIX XXVI--Continued

School		HSCI 5		HSCI 6		HSCI I		HSCI II	
		High	Low	High	Low	High	Low	High	Low
121	x	26.68	24.20	22.32	21.00	126.28	129.93	49.72	47.60
	sd	8.95	7.34	5.08	1.89	22.79	15.16	5.52	8.52
131	x	33.80	28.32	21.56	22.73	119.80	118.45	49.64	43.77
	sd	7.48	7.93	3.36	2.47	19.77	18.59	8.07	7.28
132	x	31.05	29.08	20.43	21.92	120.90	115.38	46.95	40.31
	sd	7.31	5.09	4.21	3.99	15.50	14.09	8.41	6.09
211	x	33.71	28.60	21.50	19.90	112.14	113.80	51.86	44.40
	sd	7.58	4.62	3.90	3.57	24.81	13.81	7.60	7.65
212	x	26.11	24.32	19.89	21.79	134.89	132.11	49.11	49.26
	sd	8.07	6.93	5.13	3.51	23.39	17.51	9.09	8.73
221	x	26.17	21.42	21.97	21.33	132.56	135.00	49.67	45.50
	sd	7.33	4.70	4.13	3.20	22.29	13.98	6.94	6.71
222	x	31.47	26.50	21.80	21.20	110.60	126.65	38.87	40.45
	sd	8.80	7.33	4.25	4.35	24.01	20.49	8.81	6.90
231	x	25.10	23.60	20.00	20.06	132.95	134.47	43.05	45.33
	sd	10.93	8.57	4.15	3.69	29.38	17.86	7.01	9.14
232	x	26.48	26.00	18.56	21.27	141.26	123.91	45.11	40.64
	sd	11.53	7.97	3.63	4.10	25.56	23.36	6.55	8.18
311	x	28.14	25.84	20.71	21.05	123.07	121.95	44.29	41.74
	sd	10.28	7.78	3.65	2.57	29.15	16.68	6.64	6.90
312	x	30.32	27.83	21.26	22.08	124.26	111.83	55.79	42.25
	sd	8.55	5.70	2.98	3.70	23.07	18.00	8.07	7.34
313	x	32.85	34.45	21.54	24.18	122.92	107.82	55.69	54.82
	sd	5.74	8.71	3.10	3.97	15.29	32.16	7.35	12.04
321	x	25.52	27.86	18.76	21.64	135.81	118.57	54.62	48.14
	sd	8.24	6.46	4.21	3.00	19.09	23.01	8.39	7.89

APPENDIX XXVII

SIGNIFICANT HSCI SCALE AND FACTOR MEANS AND STANDARD DEVIATIONS BY THREE SOCIOECONOMIC CLASSIFICATIONS OF SCHOOL SETTING

Scale No and Abbs		Upper Middle		Middle Middle		Lower Middle	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
S1	Aba-Ass	5.07	2.10	5.70	2.10	5.51	2.12
S7	Chj-Sam	5.08	2.07	4.54	2.30	5.39	2.30
S8	Ctr	5.93	1.59	5.78	1.53	5.28	1.72
S9	Dfr-Rst	3.93	1.63	4.02	1.27	4.62	1.50
S18	Imp-Del	6.24	1.41	6.19	1.55	5.50	1.61
S22	Ord	4.15	1.79	4.47	1.85	5.01	1.72
S27	Sen-Pur	4.59	1.72	3.93	1.56	3.45	1.67
S30	Und	5.22	1.69	4.42	1.80	4.86	1.70
F3	Orderliness	19.09	5.20	20.04	4.73	22.14	4.69
F4	Intellectual Climate	32.03	8.69	30.00	8.13	29.83	8.35
F5	Personal Dignity	28.77	8.13	26.31	7.82	28.28	9.23
I	Development Press[a]	121.83	22.86	127.86	21.71	126.58	22.82
II	Control Press[a]	48.91	9.50	47.49	8.62	44.94	7.49

[a] The weights of the salient loadings on Areas I and II are negative. High scores represent lower Development Press, or Control Press Dimensions.

APPENDIX XXVIII

TWO WAY ANOVA HSCI FACTOR AND AREA MEANS AND STANDARD DEVIATIONS BY THREE CLASSIFICATIONS OF SCHOOL SETTING

N=239

		School SES		
Ability		1	2	3
1	x	114.78	107.93	104.04
	s.d.	13.82	14.18	12.51
2	x	102.11	102.06	95.43
	s.d.	14.22	11.49	13.92

APPENDIX XXIX

TWO WAY ANOVA MEANS AND STANDARD DEVIATIONS FEMALE JOINT AI-HSCI FACTOR BY SCHOOL SETTING SES AND ABILITY GROUP
N=217

		School SES		
Ability		1	2	3
1	x	112.11	111.70	102.55
	s.d.	13.20	15.46	11.95
2	x	103.41	99.78	94.53
	s.d.	16.55	12.40	13.93

APPENDIX XXX

MALE AI STANDARD SCORE MEANS AND STANDARD DEVIATIONS
N=239

Scale Abbs	Mean	Standard Deviation
1 Abb-Ass	3.82	1.97
2 Ach	5.34	2.35
3 Aba-Dfs	4.70	1.93
4 Aff	5.62	2.38
5 Agg-Bla	5.72	2.23
6 Cha-Sam	5.63	1.87
7 Chj-Dsj	3.97	2.14
8 Ctr	5.70	2.01
9 Dfr-Rst	4.69	2.01
10 Dom-Tol	5.53	2.22
11 E/A	4.50	2.51
12 Emo-Pl	4.01	1.92
13 Eny-Pas	6.31	1.57
14 Exh-Inf	4.05	2.21
15 F/A	4.45	2.16
16 Har-Rsk	3.95	2.15
17 Hum	4.23	2.48
18 Imp-Del	5.69	1.81
19 Nar	4.77	2.23
20 Nur	5.38	2.59
21 Obj-Pro	7.72	1.85
22 Ord	3.54	2.73
23 Ply-Wk	6.56	2.28
24 Pra-Imp	5.26	2.28
25 Ref	5.86	2.26
26 Sci	4.53	3.07
27 Sen-Pur	4.02	1.82
28 Sex	3.95	2.47
29 Sup	5.40	2.19
30 Und	5.23	2.56
Factor		
1 Achievement Motivation	27.33	6.33
2 Emotionality	26.27	5.91
3 Independence-Dependence	30.93	8.52
4 Unassertiveness-Dominance	25.75	7.63
5 Anti-Intellectuality	26.72	9.16
6 Individuality	31.00	7.42
7 Exertiveness-Submissiveness	16.78	4.35
Area		
I Dependency Needs	61.28	16.92
II Intellectual Orientation	50.61	13.59
III Emotional Expression	62.69	12.33

APPENDIX XXXI

FEMALE *AI* STANDARD SCORE MEANS AND STANDARD DEVIATIONS
N=220

Scale Abbs	Mean	Standard Deviation
1 Abb-Ass	4.27	1.82
2 Ach	4.65	2.28
3 Aba-Drs	5.02	2.07
4 Aff	6.55	2.33
5 Agg-Bla	4.46	2.29
6 Cha-Sam	6.80	1.94
7 Chj-Dsj	3.80	2.38
8 Ctr	5.49	2.12
9 Dfr-Rst	5.38	2.14
10 Dom-Tol	4.66	2.45
11 E/A	4.17	2.40
12 Emo-Pl	6.29	1.92
13 Eny-Pas	6.53	1.65
14 Exh-Inf	3.87	2.35
15 F/A	3.23	2.17
16 Har-Rsk	5.01	2.21
17 Hum	4.51	2.78
18 Imp-Del	6.31	1.72
19 Nar	6.39	2.09
20 Nur	7.35	2.22
21 Obj-Pro	7.40	1.98
22 Ord	4.48	2.93
23 Ply-Wk	6.80	2.17
24 Pra-Imp	4.70	2.43
25 Ref	6.59	2.13
26 Sci	2.74	2.61
27 Sen-Pr	6.07	1.62
28 Sex	6.31	2.47
29 Sup	6.46	2.03
30 Und	5.33	2.42
Factor		
1 Achievement Motivation	26.39	6.51
2 Emotionality	31.66	5.88
3 Independence-Dependence	21.92	8.14
4 Unassertiveness-Dominance	29.61	8.30
5 Anti-Intellectuality	27.64	8.56
6 Individuality	26.99	7.82
7 Exertiveness-Submissiveness	15.33	4.37
Area		
I Dependency Needs	75.76	16.43
II Intellectual Orientation	48.75	13.24
III Emotional Expression	62.61	12.95

APPENDIX XXXII

HSCI STANDARD SCORE MEANS AND STANDARD DEVIATIONS
N=462

Scale Abbs	Mean	Standard Deviation
1 Abb-Ass	5.44	2.11
2 Ach	4.99	1.62
3 Aba-Dfs	4.92	1.67
4 Aff	4.05	2.11
5 Agg-Bla	5.42	1.99
6 Cha-Sam	5.32	1.61
7 Chj-Dsj	5.00	2.24
8 Ctr	5.66	1.63
9 Dfr-Rst	4.19	1.50
10 Dom-Tol	5.73	2.07
11 E/A	4.64	2.00
12 Emo-Pl	5.16	1.65
13 Eny-Pas	3.72	2.05
14 Exh-Inf	4.65	1.89
15 F/A	4.66	1.59
16 Har-Rsk	3.21	1.53
17 Hum	3.71	2.05
18 Imp-Del	5.98	1.56
19 Nar	4.45	2.11
20 Nur	3.76	2.13
21 Obj-Pro	4.95	2.42
22 Ord	4.56	1.82
23 Ply-Wk	4.88	1.78
24 Pra-Imp	5.75	1.83
25 Ref	4.78	1.85
26 Sci	4.00	1.85
27 Sen-Pr	3.98	1.71
28 Sex	6.55	2.00
29 Sup	3.58	1.89
30 Und	4.83	1.76
Factor		
1 Disassociation-Group Life	34.96	7.98
2 Normative Control	22.47	5.46
3 Orderliness	20.43	5.03
4 Intellectual Climate	30.60	8.42
5 Personal Dignity	27.77	8.46
6 Individualized Achievement	21.12	3.88
Area		
I Development Press	125.74	22.54
II Control Press	47.10	8.82